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OF THE

BUREAU OF HEALTH

FOR THE

PHILIPPINE ISLANDS

FOR THE

FISCAL YEAR ENDED JUNE 30, 1907

VICTOR G. HEISER, M. D.

DIRECTOR OF HEALTH

PASSED ASSISTANT SURGEON, UNITED STATES PUBLIC HEALTH
AND MARINE-HOSPITAL SERVICE

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BUREAU OF HEALTH,

Manila, August 5, 1907.

SIR: Pursuant to instructions issued by the honorable the Secretary of the Interior for the Philippine Islands, I have the honor to submit herewith the following report upon the operations of the Bureau of Health for the period from July 1, 1906, to June 30, 1907, this being a complete report of the health work in the Islands for the year ended June 30, 1907, and the eighth annual report of this division of the Philippine Government.

ALL RECORDS BROKEN.

The effect of the sanitary reforms which have been persistently carried out during the past few years commenced to show in a most concrete and substantial manner during the period covered by this report. The public health has been more satisfactory than at any time since the American occupation of the Philippines, from which it is reasonable to infer that health conditions are better now than at any time for the past one hundred years or more. The death rate per thousand for the city of Manila has been reduced from 40.90 last year to 36.91; the rate for Americans being 5.59, which is a reduction of 3.75 over the previous year, and among Spaniards the rate dropped from 17.40 to 15.84.

There has not been a single case of plague in the Islands and not one death from smallpox in the city of Manila. Cholera in recognizable form has disappeared entirely from the Archipelago. The Provinces of Cavite, Batangas, Cebu, Rizal, La Laguna, Bataan, and La Union, where heretofore there have been approximately 6,000 deaths annually from smallpox, have not reported one death from this disease. In all, there have been over 2,000,000 vaccinations performed, the direct effect of which was that many lives were spared and thousands of persons were saved from being disfigured for life, and at the few places at which smallpox did break out it made no headway.

The solution of the leprosy problem has passed from the theoretical to the practical stage. The number of lepers September 1, 1905, was 3,580; the number June 30, 1907, is 2,826.

Great strides were made in introducing better drinking water, artesian wells being now in actual use in many of the towns of the provinces.

(More detailed information about all these matters will be found under appropriate subheads in the pages which follow.)

Bureau of Health 5-4-089.

THE NEW CENSUS OF THE CITY OF MANILA.

During the month of January the Bureau of Health took the census of Manila, which showed the population of the city to be 223,542 as against 219,941 given by the official United States census of 1903, which is an increase of 3,601, or 16.37 per thousand. The increase by nationalities is as follows:

Nationality.	Increase.	Percentage.
Americans.....	810	8
Filipinos.....	5,610	2
Spaniards.....	375	14
All other nationalities.....	248	27

There has been a decrease in the Chinese population from 21,230 to 18,028, or 15 per cent; and among those classified as "Other Europeans" there has been a reduction from 1,117 to 977, or 12 per cent.

The decrease in the number of Chinese can probably be accounted for by:

1. The large emigration to the provinces which has taken place among the people of this nationality as peace conditions in the outlying districts have become more and more secure.

2. By the operation of the Chinese Exclusion Law, which prohibits the immigration of this nationality to the Philippines and thus prevents the balancing of the losses caused by the mortality.

3. The few births, owing to the small number of the wives of Chinamen living in Manila.

4. The return of many to China to spend the remainder of their lives.

5. The census being taken at a time when a great many Chinamen were visiting their native country to celebrate the Chinese New Year.

The Acting Secretary of the Interior has approved the use of the figures of the census taken by the Bureau of Health and the same will be used hereafter in compiling all vital statistics.

The census was taken at a time when a considerable portion of the population was absent in the provinces, and no doubt many others remained uncounted owing to the suspicion with which the more ignorant residents view Government officials, they being extremely suspicious that there is some ulterior motive in view, so that the real population is probably much higher than the foregoing figures show.

One fact clearly shown was that the sanitary officials are constantly coming into closer touch with the people, and are no longer always viewed as enemies. The double function that many of the sanitary inspectors now perform, of reporting communicable diseases and insanitary conditions and of providing the indigent with free medicines and having them cared for in charitable institutions, has no doubt had much to do with this more favorable condition of affairs.

CHOLERA.

At the time the last annual report was about to be sent to press, the Bureau was again busily engaged in combating a cholera outbreak which threatened to assume serious proportions. In the city of Manila there occurred during the year 848 cases with 744 deaths, and in the provinces 7,085 cases with 5,243 deaths.

The disease commenced to spread by land both north and south, and it was only through the magnificent fight to eradicate the disease from Tayabas, made by a detail of Bureau of Health officials, that another serious outbreak like that of 1902 was avoided. The cholera spread slowly, from the Province of La Laguna, along the new road which leads from Bay to Lucena by way of Tiaong. The onward march of the disease was stubbornly resisted, and it was only after all effort was concentrated on the narrow neck of land in Tayabas Province which lies between Laguimanoc on the west coast (China Sea) and Atimonan on the east (Pacific Ocean) that its onward march was finally arrested. It is noteworthy that at no time did the disease spread by sea, thus showing conclusively that the marine quarantine measures were entirely effective.

The measures adopted in combating cholera were practically the same as those given in the last annual report: Strict outgoing maritime quarantine; prompt isolation of the sick and disinfection of the premises, and no attempt at quarantine by land.

It is hardly possible to describe the feeling of security which seemed to pervade the public. With the exception of the comparatively small increase in the freight and passenger rates that was imposed upon inter-island vessels leaving Manila, no large financial loss resulted. The regular machinery of the Bureau of Health worked so smoothly that it was able to meet all demands with practically no increased outlay above routine expenditures. If it had not been for the reports which were published daily the people would scarcely have known that cholera was in their midst, except in so far as they or their friends were directly affected by the disease. The feeling of security was directly responsible for the preservation of many lives, and on account of there having been practically no disturbance to business, thousands of dollars were saved.

(A detailed report of the cholera for this period will appear later in a medical journal.)

PLAGUE.

Since the method of combating plague has been based upon the theory that its eradication could be accomplished by isolating the sick and destroying plague-infected rats, the efforts of the Bureau have met with complete success. There has not been a case of plague in the Philippine Islands during the period covered by this report except those which were accidentally caused by inoculations in Bilibid on November 16, 1906, while prophylactic inoculations against cholera were being made by a

member of the staff of the Bureau of Science. In all, there were 24 cases due to this latter cause, 14 of which died, giving a case mortality of 58 per cent. The fact that the cases occurred in a crowded institution, with an average of about 3,500 inmates, and that the disease was confined strictly to the inoculated cases, is further convincing evidence of what may be accomplished by modern sanitary science.

Manila, and in fact the entire Philippine Islands, present a plague record which stands in favorable contrast with that of the rest of the Orient. In India, about one person out of every 300, or over 1,000,000 persons annually, are dying of plague. In Hongkong, Amoy, Singapore, Saigon, and other Oriental cities having commercial intercourse with Manila, many cases are being constantly reported. Dr. Atkinson, the honorable principal civil medical officer of Hongkong, in an address before the Philippine Islands Medical Association at its last session, held in Manila February 27, 28, March 1 and 2, 1907, said:

It is an almost hopeless task to expect to stamp out plague entirely in Hongkong, seeing how liable we are from our geographical position to reinfection from the neighboring countries. Many insanitary areas and buildings have been allowed to be erected, and it is only by their erection on improved plans and by rigid prevention of overcrowding that plague or any other infectious disease can be stamped out of Hongkong.

The Philippines have been more fortunate, but of course are subject to reinfection on account of their geographical position and extensive and increasing commerce. A continued immunity from the disease can be had only through the greatest precautions being taken with vessels from plague-infected ports, and by placing the ports of entry in such good sanitary condition that even if the disease should be imported its eradication could be accomplished easily. This means, so far as Manila is concerned at least, that the work of improving insanitary areas, and removing or repairing insanitary structures, which was begun several years ago, must be pushed steadily until the last place of that kind has been eliminated.

BERIBERI.

The mortality from beriberi in Manila at large was about the same as for last year, there being 403 deaths reported from this cause as against 378 for the previous year. One death occurred among every 391 Chinese and one death among every 540 Filipinos. No deaths took place among Americans or Europeans.

In public institutions there has been a most marked reduction in the deaths from this disease. At Bilibid, for instance, the number dropped from 21 for last year to 9 for this year. Less and less difficulty is being experienced in preventing the spread of beriberi in jails and other places where the inmates are under the direct control of the Bureau. Practically the only cases with which it was necessary to deal were in those persons who were afflicted with the disease upon admission.

Upon the appearance of beriberi, the nitrogenous constituent of the ration is immediately increased by adding more meat and mongoes, and the amount of rice correspondingly reduced. In view of the remarkable results recently achieved by Fletcher at the Kuala Lumpur Lunatic Asylum, Straits Settlements, in using a rice which was boiled before being husked, no cases of beriberi occurring among 123 inmates in the same institution who were kept on this diet, while 43 cases with 18 deaths occurred among a similar number who ate rice which was unboiled before being husked. It may, perhaps, be that the success which has been had in the Philippines in the management of this disease has been largely due to the withdrawal of a portion of the rice.

The impression has also been gained during the past year that beriberi is very much less common among persons who eat only Philippine rice which is not husked until shortly before using, owing to the mold which soon renders it unfit for consumption, than among persons who use imported Chinese or Indian rice, which has often been husked for a year or more before being used. However, no systematic observations have been made upon this point and investigation may prove it to be fallacious. At any rate the fact that no Europeans or Americans whose diet is richly nitrogenous, as compared with the native Oriental, succumbed, certainly indicates that the question of diet as a cause of beriberi deserves further observation and study.

TUBERCULOSIS.

A large part of each annual report of the Bureau of Health, since American occupation, has been devoted to the discussion of cholera, plague, and smallpox, and when the term "dangerous communicable diseases" has been mentioned it was usually in connection with these maladies. Nearly every general appropriation bill that has been passed has provided funds for combating these diseases. Dangerous and formidable as they are, they are insignificant when compared to the great white plague—tuberculosis—which is the most universal scourge of the human race; about one-seventh of all of the deaths of the world being caused directly by it. During the past year in Manila one-sixth of the total deaths were actually due to this cause. This does not represent the total number of cases, as many persons who have tuberculosis die with intercurrent diseases. Tuberculosis claims more victims, produces more misery, is destructive of more happiness, creates more poverty, and interferes with the public weal to a greater extent than any other disease ever known to man. These facts are appalling, when it is remembered that the disease is preventable, though with greater difficulty than cholera, plague, or smallpox. The disease is largely propagated by unnatural conditions created by the victim or his friends. Environment is an important predisposing factor in the spread of tuberculosis, as proved by the susceptibility of those who live in dark, damp, and poorly ventilated habitations; such persons not only manifest a greater liability

to contract the infection, but show a decidedly lower resistive power against its progress.

Every place where people collect in crowds for work or pleasure becomes a dangerous center. Living in unwholesome lodgings which are damp and dark, ill ventilated, or overheated is one of the chief predisposing causes of tuberculosis. Experience has shown that tuberculosis is preëminently a house disease—a disease of indoor life. Dr. Flick, the noted Philadelphia physician, has truthfully said :

Without the house, tuberculosis would not exist. It depends upon the house for its implantation and propagation and for the evolution of all its phenomena. The house is the place where the tubercle bacillus lies dormant in wait for its new host; it is the place where the new host gets his implantation; it is the place where the tubercular subject gradually becomes a consumptive; and it is the place where the consumptive dies.

If man desires to free himself from the great white plague he will have to retrace his steps from some of what he considers advanced points of civilization. He will have to learn among other things that fresh air is God's greatest gift on earth, and that whatever shuts out fresh air shuts out health and happiness.

The disease in the Philippine Islands, as elsewhere, is more prevalent in the cities than in the country districts, particularly in the larger cities, such as Manila, where the population is massed together. Its progress is greatly facilitated by insanitary conditions, especially those which favor the presence of bacilli in the atmosphere, and the reduction of individual powers of resistance.

Anything which has a tendency to impair the general health may serve as a contributory cause, but the essential cause is the tubercle bacillus, and without this bacillus there can be no tuberculosis. There are three methods by which germs probably gain access to the body; by inhalation—that is, by breathing into the lungs; by ingestion, or by being swallowed with food, drink, or saliva; and by inoculation or by the penetration of tuberculous substances through a wound in the skin.

The most frequent method of propagation is that resulting from the indiscriminate deposit of tuberculous sputum through careless expectoration. If sputum is carelessly deposited so that it becomes dry and pulverized, the action of the air soon causes it to mingle with the dust and the person inhaling the atmosphere thus contaminated is exposed to the danger of contracting the disease. Besides the danger arising from carelessly deposited sputum, the inhalation and ingestion of small particles of saliva expelled by a patient during the act of coughing, especially when the cough is dry or expelled when he is speaking quickly or loudly, or when sneezing, is a source of danger to all who come in close contact with him. During these acts there are expelled almost invisible drops of saliva, so small that their impact against the skin are not recognized by the nerves of sensation, yet they may contain tubercle bacilli and be the means of spreading the disease.

The next most frequent method of propagation and one to be reckoned

with seriously in Manila is through the ingestion of the germs of the disease with food and water which may become contaminated by dust, by contact with flies or insects, by careless handling, or by careless spitting. The third and much less frequent cause of tuberculosis, the inoculation or penetration of the tubercular substance through the skin, is by no means rare in the Philippine Islands.

The Bureau of Health has issued a bulletin setting forth all these methods of conveying the disease and urging appropriate prophylactic measures. Attention has been called to the fact that the expectorations of a patient suffering from pulmonary tuberculosis, no matter what the stage of the disease is, may spread the infection if the matter expectorated is not rendered harmless before it becomes dry and pulverized.

It is being urged that all tubercular patients should make use of spit cups made of metal in which some disinfecting fluid should be kept in order that the sputum may be disinfected and thereby rendered harmless. An effort is being made to have provided in schools, churches, factories, stores, railway cars, waiting rooms, restaurants, saloons, theaters, and other places where people congregate an ample supply of sanitary cuspidors. The use of the pocket handkerchief as a receptacle for sputum is dangerous.

The bulletin on tuberculosis discusses the symptoms and signs of the disease and urges the importance of an early diagnosis, especial stress being placed upon the importance of prevention, and teaches that tuberculosis may be prevented by proper precautions. The sputum is the greatest source of infection and should receive the greatest care. These precautions referred to consist of destroying the sputum of infected persons before it has time to dry; of admitting plenty of fresh air and sunlight to all living rooms; of avoiding the raising of clouds of dust by sweeping or otherwise; of keeping the general health of the noninfected at the highest standard; of eating wholesome food; of systematic bathing which should include the sponging of the chest; and of observance of the strictest rules of personal hygiene—in other words, “living as close to nature as possible.” Floors should always be dampened or sprinkled with wet sawdust or damp sand before being swept.

The same rules of personal hygiene with appropriate medical treatment will cure the majority of cases, if taken in time. The greatest mistake that can be made with reference to the disease, except the use of advertised or quack remedies or “consumption cures,” is to deny its presence or to delay treatment by proper measures.

In the profession of medicine there are no secret remedies or methods; such belong exclusively to the quacks and should be avoided as worthless, dangerous, and unscientific.

Sanitariums, hospitals, dispensaries, care stations, and special facilities for public notification are called by Professor Koch the heavy artillery in the battle against tuberculosis, while he designates all efforts to instruct the people as to the danger of tuberculosis, to arouse by proper

publications the interest of the masses in combating the disease, and all other means as the lighter weapons. In some battles the heavy artillery proves more effective than the lighter weapons, while in others the credit must be given to the latter.

The time will soon come when state and municipal governments will take the initiative in the great work of prophylaxis. The expense involved is too great for private resources to bear. The first step will be compulsory notification; then will follow measures for protecting the public by taking adequate precautionary means, properly supported by legal authority, against the spread of the disease by the filthy habit of indiscriminate spitting; the betterment of domiciliary conditions, especially with reference to ventilation; and finally the enlightenment of the patient himself.

Koch's five measures for combating the disease are substantially as follows:

First. Compulsory notification of all cases of infection or open cases of tuberculosis to the board of health.

Second. Hospital for advanced cases.

Third. Sanitariums for incipient cases for the purpose of a practical education in the cure and the prevention of the disease; also instructions to medical men and students in the means of making a diagnosis at a time when most cases can be cured.

Fourth. The establishment of free dispensaries for the poor and provisions for furnishing such patients with food, raiment, medicine, and proper sanitary environments in their homes, and proper instruction in nursing by persons who are trained in sanitary methods and in the use of sanitary appliances.

Fifth. Sanitary homes and workshops, and by educational campaign through the press, lectures, and leaflets, giving concise description of the disease, its causes, and the best method of cure and prevention.

If the sputum question could be settled definitely in favor of hygienic precautions, the disease would very soon be eliminated from the Philippine Islands. In the city of Manila the sanitary code makes provision against spitting on the sidewalks and in public places. This is a step in the right direction, but the great trouble lies in the lack of knowledge and appreciation of the people of the true nature of the disease. Where one case is contracted on the street, perhaps a thousand are contracted in houses, so that, after all, the campaign resolves itself into one of education, not of law. The work has already been inaugurated, but the results are slow to manifest themselves but are sure to come if the present policy is continued with patience, perseverance, and energy. The contents of the bulletin on tuberculosis which was prepared by the Bureau of Health during the year are now being taught in the schools of the Philippine Islands and it is hoped that this campaign of education which has been thus begun will be the forerunner of a movement which will result at least in greatly reducing the number of cases of tuberculosis in the future.

DIPHTHERIA.

Heretofore, the only cases of diphtheria which came officially to the knowledge of the Bureau of Health were those which arrived upon incoming vessels, most of them occurring upon Navy ships. During the past year, however, several cases have been reported in different portions of the Islands; the diagnosis of some of them being confirmed microscopically.

Several cases occurred in Catbalogan, Samar, which presented all the clinical appearances of diphtheria, but the diagnosis was not confirmed bacteriologically.

One case occurred in the city of Manila, in an American child which had been resident here for more than a year previous, and, so far as is known, had not come in contact with anyone who had diphtheria. The disease developed several days after Christmas presents were received from St. Louis. Whether the infection had been conveyed by the presents or in the packing with which they were surrounded is, of course, not known.

During the latter part of May three cases occurred in a Filipino family the members of which had been residents of Manila for many years, and the parents are very positive in their statements that none of their children had come in contact with any person from incoming ships for at least several weeks previous to the appearance of the disease. In this family there were three cases and two deaths. In all, there were ten cases with eight deaths reported for the year. Recovery took place in the few cases in which antidiphtheritic serum was used.

YAWS.

During January and February a number of cases of yaws were reported in Parañaque, a small town situated on the Bay of Manila, just outside the city limits. No deaths are known to have occurred. On March 1 a case of yaws occurred among the lepers at the San Lazaro Leper Hospital, and seven days later three additional cases were reported, and, in the succeeding fourteen days, there were two more, the last case having been reported May 12, making a total of seven cases in all. No fatalities occurred among them. Microscopical examinations made of the specimens taken from the lesions showed a spirochæte similar to the one described by Castellani to be present.

TYPHOID FEVER.

Typhoid fever seems to have obtained a firmer foothold in the Philippines than has heretofore been the case. As the changes which ordinarily accompany the introduction of advanced civilization are being more and more introduced in these Islands, it is becoming apparent to a greater degree that this disease is constantly affecting more persons.

At the present time, the construction of the new railroads in the Islands is responsible for the gradual introduction of typhoid at many places at which it has not been encountered heretofore. Fortunately, many of the cases appear to be due to direct importation, the disease appearing among Americans and Japanese who have only recently come to the country; the patients either arrive during the incubation period or, possibly, have ingested foods obtained in countries from which these new arrivals came. It would also appear probable, in view of Soper's recent investigations in New York, that there are individuals arriving here who have infected gallbladders, or who at least excrete typhoid organisms in their stools. It seems logical that the reasons why typhoid has not spread more heretofore in the Philippines are not so much on account of the tropical climate, but because the ordinary means by which the disease spreads have not been available. For instance, it is only a few years since milk of local production has been used to any extent in the Islands; there were practically no general water-distributing systems or reservoirs; in the absence of sewer systems it was almost impossible to infect places in which oysters and other shellfish grew. These facts, together with the comparative absence of flies during the greater portion of the year, are all explanations as to why there has not been heretofore a more general spread of the disease.

Every effort was made to trace the origin of the infection in the cases that occurred in the city of Manila. A medical officer was detailed for this purpose who spent several weeks upon the investigations, but no definite conclusions were reached.

It has been the opinion of the Bureau of Health that if the Mariquina River, from which the water supply of the city of Manila is drawn, should become infected with typhoid fever, a widespread epidemic would occur in the city of Manila, and from there the disease would very probably be carried all over the Philippine Islands. For this reason, extra precautions have been taken in order that the Bureau might keep well informed as to whether any cases of typhoid were occurring among residents who lived on the watershed. So far, not a single case has been found, and it is probably due to this fact that Manila has enjoyed a comparative immunity from this disease. There were reported in all, in the city of Manila, fifty-eight deaths from typhoid fever, during the year, but of this number the diagnoses of not more than eight or ten were verified by laboratory methods.

GANGOSA.

The first person in the Philippine Islands definitely known to have been afflicted with gangosa, or rhino-pharyngitis mutilans, the name suggested for the disease by naval medical officers, died at St. Paul's Hospital, in this city, during the month of January. Cases may have occurred in the past, but if so, they have escaped recognition. Extensive

inquiry among Filipino and Spanish physicians who have been in the Islands many years tends to show that while cases of a disease with similar symptoms have been observed, they were generally regarded as leprosy and no distinct separation was ever made. The disease is an infectious, painful, and disfiguring malady, due to a cause prevailing extensively in Guam, but the nature of which is still unknown. The nose and upper part of the face are destroyed by slow ulceration, while the tongue is never affected. Cases have been observed in persons from 3 to 80 years of age. The disease sometimes lasts from several months to a number of years, and even during this period, in its active stage, there is no reduction in flesh or strength. The mortality is low, yet the disease does not yield readily to treatment, although antiseptic methods appear to retard the extension of the ulceration.

During the time that lepers were being collected from the Island of Leyte a case with many of the symptoms of gangosa was encountered and removed to the San Lazaro Hospital, in Manila, where it died the latter part of May. A careful autopsy was made, but owing to the microscopical work not yet having been completed it is not possible to state whether the case was one of gangosa or not.

PARAGONIMUS WESTERMANII INFECTION.

During the year the pathologist for Bilibid hospital found seventeen persons at Bilibid Prison who are infected with *Paragonimus westermanii*. Of these cases, eight were fatal, the diagnoses having been made at autopsy. Medical men connected with the hospital are of the opinion that the disease is much more common in the Philippine Islands than has heretofore thought to have been the case. It is believed that many of the cases which are now diagnosed tubercle of the lungs are in reality fluke infections. In several of the cases, trematodes were not confined to the lungs but were found in various organs of the body and particularly in the brain. In making sections of the lungs a large number of burrows are usually found to be scattered throughout the organs, and in the burrows a material which is similar to that of the sputum found in living cases is encountered. The wall between the burrows frequently breaks down and thus makes large cavities.

MEASLES.

Measles has continued to be a most rare infection in the Philippine Islands. Only three cases were encountered during the year among Filipinos, but importation of this disease took place. The transport *Logan*, which arrived here during the latter part of March, had on board two cases of measles among soldiers, and upon their being transferred to Fort William McKinley several additional cases developed. Owing to the prompt measures taken by the military authorities, no further spread of the disease took place.

MALARIA.

During the year 23 deaths less from malaria were reported for the city of Manila than for the previous year, the total number being 173. On account of the fact that the great majority of these diagnoses were not confirmed microscopically, it is exceedingly doubtful as to whether there was actually that number of deaths from this disease in the city. The *Anopheles* mosquito is not very common in Manila, and it is believed that the majority of the cases of malaria are contracted outside of the city. In the provinces, particularly in Albay and the Camarines, the disease has been very much less prevalent than heretofore, which fact can be ascribed perhaps to the free distribution of enormous quantities of quinine which have been issued to residents of these districts. The question of mosquito extermination in the Philippines, with reference to reducing malaria, will be taken up in another part of the report.

INSANITY.

In the United States one insane person (with the insane are included the feeble-minded) is encountered in every 466 of the population. These figures are based upon a population of seventy millions and only include those persons who are confined to hospitals or other institutions. In Great Britain one person out of every 304 is insane, and in the Philippine Islands one person out of every 1,667 is reported as being insane. This would indicate that insanity is far less prevalent in the Philippine Islands than elsewhere. These figures are particularly significant in view of the fact that consanguineous marriages in the Philippines are said to be very common, and since such marriages have been ascribed as one of the principal causes of mental derangement, it is noteworthy that they seem to have no effect in the Philippines as a cause of insanity. It will be interesting to note in the future whether the increased nervous tension which naturally accompanies a higher civilization will be conducive to an increased proportion of insane in the Philippine Islands. The percentage of recoveries at the San Lazaro insane hospital compared favorably with results reported in Great Britain, there being 27 or a percentage of 19.

The Bureau of Health census of the insane of the Philippine Islands shows that there are 1,969 males and 1,480 females, or a total of 3,449. Of the 1,969 male adults 1,422 are single, and of the 1,480 female adults 922 are single. Three hundred and seventy-nine male adults and 313 female adults are married, while 104 males are widowers and 202 females are widows. It is probable that in this census weak-minded persons are included as insane.

Mental disorders have undoubtedly received less attention from physicians in the Philippines than any other class of disease. At the present time the municipalities are charged with the care of the insane, but in

nearly all cases they are absolutely without facilities for so doing. If the insane are harmless they are permitted to go the even tenor of their way, and if violent the only remedy is to lock them up in the municipal jail or chain them in their houses.

Of the 3,449 insane in the Philippine Islands less than 300 are cared for in asylums. The Bureau of Health maintains, by contract, 164 in the Hospicio de San José and there are accommodations for 90 in the insane department of San Lazaro Hospital.

The Commission, recognizing the great need for further provisions for the insane, acted favorably upon the recommendations made in previous reports, and on December 26, 1906, appropriated the sum of ₱55,000 to erect and equip a new insane ward at San Lazaro Hospital for the care of 250 additional insane. This building, plans of which were drawn by the Consulting Architect to the Commission, is of the most modern type, being constructed of reënforced concrete. It is believed that this type of structure is an ideal one for the Philippine Islands, as it successfully meets several indications, the most important of which is that it is as near earthquake-proof as any building can be, as shown by the experience in the San Francisco disaster. It also insures protection from heat and resists the effects of the prolonged rainy season. Stone buildings nearly always become damp and musty, and frame buildings do not resist the elements and are very dangerous because of the facility with which they take fire during the dry season. This new building is a radical departure in hospital construction and will serve as a guide for the future. As soon as proper facilities are provided, this Bureau will recommend a law to cover the commitment of the insane. The procedure at this time is to have the patient arraigned in the courts, after which a committee of medical men is appointed to make an examination and report the condition. It is hoped that with the increased accommodations which will be available by August 15, 1907, the most pressing cases may be taken care of. The Bureau has been much embarrassed in the past in not being in position to provide for many cases that were brought to its attention.

The distribution of the insane by provinces is the subject of a detailed statement to be found elsewhere in this report.

AMŒBIC DYSENTERY.

There was again a decided increase over the last year in the number of deaths reported in the city of Manila from amœbic dysentery; 344 deaths being reported as against 288 for the year preceding. Believing that much good might be accomplished by giving instructions, particularly with regard to the prophylaxis of this disease, Bulletin No. 6 has been prepared and arrangements have already been made with the Bureau of Education to have it taught in the public schools throughout the Philippine Islands. It is hoped that by disseminating knowledge

with regard to dysentery by this general method, the prophylaxis may become better understood and the number of persons who are afflicted with this disease gradually lessened.

LEPROSY, AND ITS TREATMENT.

While our knowledge with regard to the cure of leprosy has not been materially enhanced during the year, yet the policy of segregating lepers at the Culion leper colony bids fair to free the Philippine Islands from this most loathsome disease. The reduction in the number of lepers in the Philippines, which was so confidently hoped for, even after a portion of the territory has been rendered free from sufferers from this disease, has been more than fulfilled. At the close of the last fiscal year there were 3,494 lepers in the Islands; at the close of this fiscal year the records show that the number has been reduced to 2,826. This reduction, in a large measure, has been due to the fact that in those Islands from which the lepers have been removed no new cases occurred, so far as can be determined, and also to the fact that in a number of islands, and more particularly in Samar and Leyte, many unfortunates who were afflicted with disfiguring, ulcerating diseases were classified as lepers, but on careful microscopical examination were found free from the disease.

In the work which was recently undertaken in collecting lepers from the Islands of Samar and Leyte for the purpose of transferring them to the Culion leper colony, considerable additional evidence has resulted in showing that many of the diagnoses of leprosy which have heretofore been made were erroneous. In order that the matter might be placed upon a definite, scientific basis, the steamer which was sent for the purpose of collecting lepers was fully equipped with a bacteriological outfit and several competent microscopists accompanied the expedition for the purpose of making microscopical examinations of all cases before they were taken on board, and also, for the purpose of studying some of the skin lesions which are so frequently encountered and many of which have undoubtedly been diagnosed as leprosy heretofore. In order to aid this work as much as possible, and with the hope of having an opportunity to have as many cases of skin lesions as possible present themselves, instructions were sent out in advance to the local officials to have every person present ready for microscopical examination who showed any evidence, even though slight, of being afflicted with leprosy, or, who had any ulcers or contractions of any sort. In this way, several hundred persons were brought to the different ports and in many cases they presented a most repulsive appearance, but, on microscopical examination they were found to be afflicted with tropical ulcers, phagadenas, or syphilis. Quite a number of cases of the latter were found, particularly on the Island of Samar. The *Spirochæte pallida* was demonstrated in many cases.

In collecting lepers no serious difficulty was encountered, and so far this feature of the work has given rise to less friction than would ordinarily be expected to be the case. The attitude of the people was no doubt largely brought about by their learning that excellent accommodations and care are given to lepers at Culion, the greater majority of them, no doubt, having better houses, better clothing, and better food than they have enjoyed before their transfer to that island, and this, coupled with the fact that they are not compelled to work, has a strong tendency to make them contented. The fact that many cases were not accepted as lepers, and that in many instances proper treatment resulted in their speedy cure, also made a most favorable impression upon the people and did much to gain their confidence in the efforts of the Bureau of Health.

From the foregoing, it will be evident that if new infections can be prevented the natural mortality among these unfortunates will soon result in the complete solution of this problem.

All lepers, so far as known, have now been removed from the Islands of Mindoro, Masbate, Romblon (which includes Tablas and other islands under the same provincial government), Siquijor, Negros, Panay, Palawan, Cuyo, Camaguin, Bohol, Samar, Leyte, and Marinduque. The work of removing them from Cebu is now under way, over one-half having already been transferred to Culion. From the foregoing it will be seen that fully one-fourth of the territory of the Philippine Islands, or 28,615 square miles, has been freed from leprosy.

At the close of the fiscal year the total population at Culion leper colony was 739. Accommodations are now available at Culion for 1,000 lepers, and the Commission has already informally expressed its willingness to appropriate the necessary funds for taking care of that number at the colony, so that the work of completing the collection of lepers upon the Island of Cebu can be undertaken at once, and when this is done, practically the entire Visayan group of islands will be free of this disease.

Up to the present time the policy of not permitting nonleprous friends and relatives of lepers to accompany them to Culion has been strictly adhered to. For such persons as may desire to be near their afflicted relatives, arrangements can be made to reside on the Island of Busuanga, which is only a few miles away, and from which place frequent visits to Culion will be permitted.

The policy of not permitting nonleprous persons to reside at Culion may seem cruel and heartless, especially to those who are directly affected by its operation, but it is hoped that the close proximity of the Island of Busuanga, where they may reside, will do much to mitigate this objection. Isolation is for the best interests of all concerned, for the benefit of the patients, and for the protection of the public. It is unfortunate

that in this particular the ends of science and sentiment must diverge, but it is very much to the credit of the persons who have been most affected by this policy that they have been most reasonable in accepting the wishes of the Government with regard to this matter.

In view of the experience obtained in Hawaii, in Europe, and other countries, and the experience of the past year in the Philippines, it is thought that whatever may be the views of well-informed persons with regard to the communicability of leprosy, and however widely eminent medical men may differ upon this question, yet the incontrovertible fact remains that every leper capable of giving off the leprosy bacilli to the media that surrounds that leper is at least one source of infection, and the utter hopelessness of successfully eradicating the disease, so long as the exact mode of transmission is not conclusively proved, will be apparent to all, and prophylactic medicine should not be permitted, by a few sentimentalists, to be turned from its march to a goal which offers the magnificent victory of the eradication of this plague from the face of the earth, and the saving of hundreds of human victims who are now sacrificed annually to this most loathsome disease.

X-RAY AND OTHER TREATMENTS FOR LEPROSY.

After the most vexatious and annoying delays, the new X-ray apparatus was secured in the United States and finally installed ready for use at the San Lazaro Hospitals about the 1st of November. The present outfit consists of:

- 1 Kny-Sheerer Company's induction coil, type "B," 18-inch spark.
- 1 motor generator for alternating current to suit coil and to operate on the city current of 220 volts and 60 cycles (single phase).
- 1 combination wall switch board, including volt meter, ammeter, lamp, etc. (latest type).
- 1 mercury turbine interrupter.
- 1 electrolytic interrupter, Wehnelt's patent; three platinum points, different sizes.
- 1 vibrating interrupter, including condenser.
- 2 mica spark gaps.
- 4 tubes, wires.
- 1 Kny-Sheerer floor tubes stand.
- 1 fluoroscope, double cyanide 8x10 with lead glass screen.
- 1 hydrometer syringe.
- 4 Muller's X-ray tubes with patented vacuum regulator.
- 4 Muller's X-ray tubes, water cooled, with patent vacuum regulator.
- 4 Gundlach X-ray focus tubes with principle. Diameter of bulb 6 inches, sparks 20 inches.
- 2 yards lead foil rubber sheeting, rubber on both sides thin.

In supplying the following data for this annual report, it is proper to state that it is not the purpose to enter into a scientific discussion of the treatment of leprosy; this will be done later when more observations are available and the same published in a medical journal, but on ac-

count of the general interest in this subject the following is respectfully submitted:

On November 2, four patients were placed under treatment; November 3, three; November 4, four; November 5, one; November 6, six; November 7, ten; and April 30, 1907, one; making a total of 29 cases actually treated. The results up to the close of the fiscal year are as follows:

Very markedly improved	8
Considerably improved	13
No change	7
Died	1

From the foregoing it may be seen that so far, at least, the X-ray has not proved a specific for the cure of leprosy, yet better results have been obtained than with any other treatment that has heretofore been used, and even if the percentage of recoveries should be no larger than in the past, it would at least offer some hope to individuals afflicted with this disease.

In treating these 29 cases, they were chosen much in accordance with the rules which prevailed with the cases that were treated so successfully in 1905, namely, cases of the tubercular variety which showed a large number of hypertrophic lesions, especially those having enlarged ears and noses. The regular Gundlach tube was used, and from 90 to 100 treatments have been given in the majority of cases. The exposures have been for ten minutes at a distance of from 5 to 10 inches, the intensity of the light used being sufficient to give a distinct outline of the bones of the hand and wrist. The treatments were given at first every three days, and later every second day, experience having demonstrated that patients are unable to stand more. The eyes are invariably protected by suitable shields. After a short time, nearly all of the patients presented a very much blackened countenance, but this does not seem to make them uncomfortable. In the few instances in which burns were produced, they healed very kindly and in a very short time. Partial alopecia was produced in about one-fourth of the cases. The one death was due to lobar pneumonia and was apparently in no way connected with the X-ray treatment.

In the seven cases which showed no change, all, at least, are in as good health as when the treatment was begun, and if no improvement has been brought about, in several of these cases at least, the progress of the disease has been temporarily arrested.

Of the thirteen patients who showed improvement, their general health is as good, if not better, than when treatment was undertaken. Clinically, the improvement consists in a reduction in the size of the ears, nose, and the disappearance of numerous leprous nodules in various portions of the body.

Of the eight that showed marked improvement, the hypertrophy

and infiltrations have almost entirely disappeared, and the only evidences of the disease they present are the scars which are left from previous ulcerations. Several of them still have partial contractions of the fingers. Three of the foregoing are frequently found negative upon microscopical examination.

In addition to the treatment by the X-ray, almost any other remedy which has been suggested has been tried, if the same could be applied with a reasonable assurance that no harm would be done the patient. Chaulmoogra oil with strychnine has been highly recommended for the treatment of leprosy, some cures having been reported from the colony in Louisiana; it was also used with considerable success in India and Africa, and has been given a trial here, but the results were not sufficiently encouraging to make the cases worth while reporting. In one of them there was apparently some reduction in the size of the lesions, but at best it was very slight.

During the month of February, through the kindness of Dr. Kanosuke Miyajima, who was delegate of His Imperial Japanese Majesty's Government to the Philippine Islands Medical Association, the Bureau came into possession of a number of bottles of leprol, which is a remedy now being tried in Japan. This has been persistently used since that date upon two cases, and clinically, they are very much improved, but they still show the leprosy bacilli in their tissues. With the exception of the X-ray, this leprol produces better results than any other treatment which has been tried heretofore.

We are constantly in receipt of letters from various portions of the world which suggest methods of curing leprosy, but it is found, when request for samples of the remedy is sent and information with regard to its composition is asked, that it is usually unanswered.

CONCLUSIONS.

The foregoing experiences are not sufficient upon which to make a definite statement with regard to the value of the X-ray treatment as a cure for leprosy, and considerable more work in this direction will be necessary before any reliable statement can be made upon this subject.

SMALLPOX.

During the year there has been unquestionably less smallpox in the Philippines than has been the case for a great many years previous. In the Provinces of Cavite, Batangas, Cebu, Bataan, La Union, Rizal, and La Laguna, where heretofore there have been more than 6,000 deaths annually from this one cause alone, it is most satisfactory to report that since the completion of the vaccination in the aforesaid provinces, more than a year ago, not a single death from smallpox has been reported; from which it may be seen that if the Bureau could show no further result

for the year than the saving of these human lives, it would have more than justified its existence. In fact, if any justification were needed for American occupation of these Islands, these figures alone would be sufficient if nothing further had been accomplished for the benefit of the Filipinos.

The question of smallpox will receive further consideration under the head of vaccination.

VACCINATION.

When the great Edward Jenner was a medical student, the casual remark made by a farmer's daughter, that she could not take smallpox because she had cowpox, so impressed him that he began an investigation of the question with the idea of devising some means for lessening the terrible scourge, which, at that time, was devastating all Europe. It is doubtful whether any people have benefited more from this discovery than residents of the Philippine Islands. So thoroughly are the Philippines saturated with the contagion of smallpox that probably 25 per cent of the residents would soon succumb to this disease if it were not for the ability to protect the inhabitants against it by vaccination.

Vaccination is one of the most accurate and triumphant discoveries of medical science. It was the first important proof of the ability to prevent disease by immunization. Jenner's announcement created great opposition at the time, and even to-day there are antivaccination societies in nearly every portion of the world. The only explanation for this state of affairs appears to be the innate perversity of human nature. No sane, reasonable individual could very well deny the efficacy of vaccination if he were acquainted with the systematic regularity with which the Bureau of Health eradicates smallpox from communities almost every week in the year, with no other weapon than vaccination. Owing to the liberal provisions made by the Commission during the past year, it has been possible, by systematic methods, to vaccinate 2,022,380 persons, which is an increase of 1,072,255 over last year. Fifty thousand more were protected by vaccine used by local officials at places where the disease made its appearance. These figures probably represent a greater number of vaccinations in proportion to the number of inhabitants than have ever been vaccinated in any country in a similar period heretofore. The complete cessation of deaths from smallpox in the provinces in which the people have been thoroughly vaccinated is the best answer to doubts which may be offered as to the efficacy of vaccination.

Since the beginning of systematic vaccinations, there have been 3,515,383 persons vaccinated. Of this number, 1,315,478 were reported as successful vaccinations and since only 2,401,806 were inspected after vaccination took place, it is quite probable that even a larger percentage of "takes" was produced than the figures show.

During the year further experience with vaccination indicated that a few minor changes were desirable in the instructions which were used as guides for vaccinators, and a modified circular was issued as follows:

MANILA, *March 13, 1907.*

Circular F-8.]

REGULATIONS FOR PROVINCIAL VACCINATORS.

1. Circular C-28, April 18, 1904, and E-8, February 13, 1906, from this office, and all circulars amendatory thereof are hereby revoked, and the following regulations will hereafter govern vaccination in the provinces:

2. *Organization.*—Vaccinators will be assigned to groups under charge of a district health officer or other employee of the Bureau of Health who has been designated as in charge, who will be responsible for the proper performance of the work. The inspector in charge will personally supervise, to the fullest extent practicable, the work of his group. No unnecessary details of vaccinators for clerical work, to the exclusion of actual vaccination, will be allowed. One clerk will ordinarily be sufficient for a group, and he should be able to devote the greater portion of his time to actual vaccination.

3. *Itinerary.*—Upon being assigned to a province, the inspector in charge will arrange an itinerary for that province which will take up its various municipalities in such order as will cause the minimum expenditures for traveling expenses, at the same time due regard being had that sections which are not accessible in the wet season are vaccinated in the dry season. A copy of such itinerary will be forwarded to the Director of Health for his information. A provincial group will usually work as a whole within a municipality, and each municipality will be completed before proceeding to the next. Departures from the regular itinerary, or the division of a group among two or more municipalities will only be made in case of emergency, the reason for such departure from the itinerary being reported by letter to the Director of Health as soon as possible.

4. *Order of work.*—Upon arrival in a town, the exact official census of the same should be ascertained, and the work shall not be considered completed until such number of persons have been vaccinated as will correspond to the census.

Whenever practicable, the inhabitants of a barrio will be caused to present themselves at some central point in such barrio, at an hour previously arranged with the concejal or teniente of the barrio, and a sufficient number of vaccinators will be detailed to vaccinate the entire population of such barrio promptly. When such an arrangement is impracticable, barrios and pueblos will be taken up systematically, street by street and house by house, until finished. In vaccinating large barrios at such distance from the población as to require hiring of transportation, the vaccinators detailed to such a barrio should not leave the barrio until the work is completed.

5. *Conduct of vaccinators.*—Vaccinators will be required to wear the prescribed uniform while on duty; to keep their person and clothing neat and clean; to give special attention to their hands and finger nails; and to comport themselves with proper courtesy and consideration toward the public.

6. *Who shall be vaccinated.*—No persons will be excused from vaccination except infants under one month; those suffering from an acute illness; extreme old age, and persons presenting satisfactory evidence of having been successfully vaccinated or of having had smallpox within the preceding twelve months. Syphilis or "Nervios" and pregnancy will not be accepted as cause for exemption.

7. *Method of performing vaccination.*—Inspectors will see that vaccinators observe the following routine in performing vaccination:

(a) Scrub site of vaccination with a pledget of cotton wet with alcohol.

- (b) Sterilize lancet in alcohol flame.
- (c) Shake tube of virus.
- (d) Take virus on blade of lancet.
- (e) Scarify, stretching skin with other hand.
- (f) Rub virus into scarified area with flat of blade.
- (g) Warn person vaccinated not to touch scarified area, nor to allow clothing to do so until thoroughly dry.
- (h) No further care is necessary.

8. *Certificates of vaccination.*—For each vaccination performed, the vaccinator will deliver to the subject thereof a certificate properly filled out on Form 36 B. H. Certificate numbers will run serially for each municipality. The attached slip will be delivered undetached from the certificate, to be subsequently detached and turned in by the vaccinator making the inspection.

9. *Vaccinator's reports.*—Each vaccinator, at the close of the day's work, will be required to make the proper entry upon Form 60 B. H. from the stubs of his certificate book.

10. *Inspections.*—When making inspections, each vaccinator acting as inspector will note the result of the vaccination on the certificate and detachable slip, and will take up the slips and turn them in at the close of each day's work.

11. *Amount of work to be accomplished.*—Vaccinators will be required to work at least eight hours each day, except Sundays and legal holidays. Local holidays will not be observed. It is expected that the average number of vaccinations performed daily will not fall below 100.

12. *Other reports from vaccinators.*—Vaccinators will be required to make report of all lepers, insane, blind, and deaf and dumb and of all dangerous communicable diseases encountered by them. The records of the municipal board of health or of the municipal secretary will be checked up with these reports, the necessary corrections made, and a copy sent to the Director of Health, through the inspector in charge of the party. If dangerous communicable diseases be encountered, the inspector in charge will at once notify the president of the municipal board of health or the municipal president, and, in conjunction with them, arrange for the necessary measures of isolation, disinfection, etc.

13. *Relations with local officials.*—Inspectors will cultivate cordial relations with the provincial and municipal officials, and seek their coöperation, and any failure to secure same, with the reasons therefor, will be reported by letter to the Director of Health. Attention is called, in this connection, to a circular letter from the Governor-General, addressed to all provincial governors under date of June 30, 1904, as follows:

"The Bureau of Health for the Philippine Islands is inaugurating a system whereby it is hoped that every person in the Islands may be vaccinated and the danger of infection by smallpox effectually removed.

"The Civil Governor requests that you issue instructions to every municipal president in your province in respect to this matter, inviting attention to the provisions of Act No. 309, Philippine Commission, and request them to render every assistance to the vaccinators of the Bureau of Health.

"Kindly acknowledge receipt of this circular and advise this office of the action taken in the premises.

(Signed) "F. W. CARPENTER,
"Acting Executive Secretary."

14. *Municipal boards of health.*—Presidents of municipal boards of health will be under the orders of the district health officers while vaccination is being carried on in their respective municipalities, and will assist in the work. It is believed, however, that their coöperation in securing the assembling of the inhabitants of

each barrio at some central point, and in other similar ways, will facilitate the work to a greater extent than their actual presence as a member of the group of vaccinators. The coöperation of the municipal president and the police should be secured toward the same end when necessary.

15. *Supplies*.—Requisitions for supplies, other than vaccine virus, required in the work of vaccination, will be made on Form 1 B. H., and will ordinarily be made in such quantities as to cover the estimated needs for one month, where communication with Manila is frequent and regular. Vaccinating parties operating in remote places where communication with Manila is infrequent and irregular should carry on hand a three or six months' supply, or sufficient to meet conditions. The following schedule may be used as a basis when preparing requisitions:

- 1 lancet, $\frac{1}{2}$ lb. cotton, and 8 liters of alcohol per man per month.
- 1 alcohol lamp per man.
- 4 Forms 1 B. H. per month, each party.
- 100 Forms 36 B. H. per man per day.
- 1 book, Form 20 B. H., per man per month.
- 2 Forms 59 B. H. per month for each party.
- 2 Forms 60 B. H. per man per month.
- 4 Forms (8A) Auditor per man per month.

Bills of lading to cover shipments of property returned to Manila.

The stationery to be used by vaccinating parties will, so far as possible, be confined to the following articles: Letter heads, rubber erasers, paper fasteners, black ink, scratch pads, blotting paper, wrapping paper, lead pencils, pens, and twine.

Variations from the above will be made when experience indicates that it is necessary.

16. *Vaccine virus*.—Shipments of vaccine virus for the supply of groups operating in provinces distant from Manila will be made in portable ice boxes, and requisitions will call for quantities in proportion to the frequency of communication, reliability of schedule, and facilities for preservation existing at the base of operations. Unless definite arrangements have been made with this office to have virus shipped at regular intervals, officials in charge of parties should invariably wire this office as to the number of units they desire shipped from Manila on a given date; for instance:

"HEALTH, Manila.

"Ten thousand, April ninth.

RUIZ."

Such information should always be forwarded several days before the steamer is expected to sail from Manila. Inspectors will be notified by wire of each shipment and will arrange to receive the virus promptly. Empty ice boxes will be returned to Manila by first available transportation, the date of shipment and name of vessel being wired to the Director of Health. Empty ice boxes should be returned by such steamship lines as have agreed to return them free of charge, to Manila. When the base of operations enjoys frequent and regular communication with Manila, and is not more than forty-eight hours' distant, vaccine virus may be sent by mail or other convenient method, without special measures for preservation, and requisitions should be frequent and for small quantities.

17. *Alcohol*.—Whenever alcohol of 36 degrees strength can be purchased in the provinces for ₱0.50 per liter, or less, the same should be obtained there and separate bills, on Form 5-A, sent to this office for payment.

18. *Pay of vaccinators*.—Vaccinators will be paid by check from Manila, on pay rolls made up and forwarded by the official in charge of the vaccinators, under the following rules:

(a) The pay rolls will be made out in triplicate for the entire party on the 23d of each month (including that date), and certified by the officer in charge of the party and forwarded to this office immediately.

(b) The "Name," "Designation," "Period of service" (1st to 30th), and "Authorized monthly rate of pay" columns only, will be filled out before forwarding. The "Amount received," "Signature," "Witness," and "Remarks" columns may be left blank.

(c) On the last day of the month telegraphic reports will be made by the chief of the party of all absences during the month. The pay rolls will be held in this office until such a report is secured.

(d) Each official in charge of a vaccination party will be furnished with a letter which will state the maximum number of vaccinators that may be employed and their rates of pay. In no case will pay rolls for an additional number be approved unless specific authority from this office is first had. The separate appointments heretofore issued by this office will no longer be required.

Officials in charge of vaccination parties are authorized to use their own judgment with regard to promotions or reductions in salary, provided they do not exceed the highest rate authorized in the letter referred to above. It is suggested, however, that except in extraordinary instances, vaccinators be paid at first a lower salary than that authorized, and gradually promoted as they show efficiency in their work.

19. *Traveling expenses.*—Traveling expense accounts must conform in all respects to the provisions of Circular F-6, March 9, 1907. Accounts for traveling expenses will be made out by each vaccinator, monthly, in duplicate, on Form 8-A, and will be accompanied by receipts on B. H. Form 20, also in duplicate. Vaccinators will be restricted to third-class transportation when traveling by rail or water, and to a moderate amount of baggage in all cases. No transportation expenses will be allowed for vaccinators in traveling short distances between barrios, and after the vaccination of a barrio is commenced, no transportation will be allowed except under extraordinary circumstances, until the vaccination of said barrio is completed.

Where the hire of carromatas or other vehicles is necessary, two or three vaccinators will ordinarily occupy a single vehicle. Inspectors in charge of vaccinating groups will carefully scrutinize and check each item in the expense vouchers of his vaccinators, seeing that the accounts are properly rendered and that the prices entered are not in excess of those paid by native residents of the locality in which the expenses are incurred. Failure to have complied with these instructions or the approval of excessive or unusual charges will be considered grounds for deducting the excess of overpayment from the salary of the inspector checking the items and certifying to their correctness. The district health officer's certification of the account will be received in lieu of travel orders for travel within the province.

20. Whenever it is more economical for the Government, vaccinators will be expected to walk if the condition of the roads will permit it; in other words, if the salary of the vaccinators for the time consumed in walking would be less than the transportation, vaccinators will be expected to walk unless there is some excellent reason to the contrary.

21. *Consolidated reports.*—Immediately after the conclusion of each month, inspectors will forward to the Director of Health a consolidated report on Form No. 59 B. H. of all vaccinations and inspections accomplished during the month by their groups, and will note on the bottom of such form the amount of virus on hand on the 1st day of the month, the amount received during the month, and the amount expended during the month, and the amount remaining on hand on

the last day of the month. All Forms 36 B. H. (stubs) pertaining to each municipality will, when completed, be delivered to the president or the municipal secretary as a part of the permanent records of such municipality.

The foregoing instructions have been found so satisfactory in actual practice that very little friction has resulted. It is perhaps noteworthy to report that no case of loss of life on account of vaccination of these more than two millions of persons has come to the knowledge of the Bureau, nor have any limbs been sacrificed, nor has there been a case of very serious infection resulting from vaccination reported.

It is believed that this record is more satisfactory than any that has heretofore been reported with regard to vaccination in any country in the world, and is conclusive evidence of the care with which vaccine is prepared at the Bureau of Science, and also, of the rigidity with which the instructions for performing vaccinations are carried out.

PURE-FOOD LEGISLATION.

Legislation guaranteeing more wholesome food and purer drugs has been earnestly asked for by the medical profession for many years, and it is therefore most satisfactory to report that the Congress of the United States, June 30, 1906, passed an act which went into effect January 1, 1907, which had for its object the accomplishment of the above purpose. It is reasonable to expect that no part of the United States will derive more benefit from this legislation than its tropical possessions, and it is confidently hoped that the enforcement of its provisions will result in still further improving the health conditions in the Philippine Islands. On the 9th day of November, 1906, the Governor-General of the Philippine Islands called attention to this act in a proclamation and named certain officials to enforce its provisions, but, later, on the recommendation of the Attorney-General, who held that on account of differences between the judiciary system in the United States and that of the Philippine Islands, the legal machinery for enforcing the act was not adequate, a new act was drafted embodying all of the act of Congress and making only such corrections and additions as would adapt the law to the Philippine Islands. This bill was passed as Act No. 1655, on May 18, 1907, on which date the Pure Food and Drugs Act of the Philippine Islands became effective. A committee was appointed by the Governor-General, consisting of H. B. McCoy, Collector of Customs, John S. Hord, Collector of Internal Revenue, and Victor G. Heiser, Director of Health, and instructed to form suitable regulations for the enforcement of the act. The committee completed its labors in June and the act and regulations were ready for distribution by July 1, 1907. Owing to the very short time which the merchants and others have had in order to become familiar with the requirements of the law, and the time required to procure chemists from the United States who are competent to make

the necessary analyses, up to the present date, no active steps have been taken for its enforcement.

The regulations provide that except for the collection of samples the enforcement of the law shall be carried out by the Bureau of Health, with the provision for appeals to the Secretary of the Interior. The laboratory work is to be done by the Bureau of Science. The act and regulations follow :

[No. 1655.]

An Act for preventing the manufacture, sale, or transportation of adulterated or misbranded or poisonous or deleterious foods, drugs, medicines, and liquors, and for regulating traffic therein, and for other purposes.

By authority of the United States, be it enacted by the Philippine Commission, that:

SECTION 1. It shall be unlawful for any person to manufacture within the Philippine Islands any article of food or drug which is adulterated or misbranded, within the meaning of this Act; and any person who shall violate any of the provisions of this section shall, for each offense, be punished by a fine not to exceed one thousand pesos or by imprisonment for one year, or by both such fine and imprisonment, in the discretion of the court, and for each subsequent offense he shall be punished by a fine of not less than two thousand pesos nor more than five thousand pesos, or by imprisonment for one year, or by both such fine and imprisonment, in the discretion of the court.

SEC. 2. The introduction into the Philippine Islands from the United States or from any foreign country, or the shipment to the United States or to any foreign country from the Philippine Islands, of any article of food or drugs which is adulterated or misbranded, within the meaning of this Act, is hereby prohibited; and any person who shall ship or deliver for shipment from the Philippine Islands to the United States or to a foreign country, or who shall receive in the Philippine Islands from the United States or from any foreign country, and having so received, shall deliver, in original unbroken packages, for pay or otherwise, or offer to deliver to any other person, any such article so adulterated or misbranded within the meaning of this Act, or any person who shall sell or offer for sale in the Philippine Islands any such adulterated or misbranded foods or drugs, or export or offer to export the same to the United States or to any foreign country, shall be punished for the first offense by a fine not to exceed four hundred pesos, and for each subsequent offense he shall be punished by a fine not to exceed six hundred pesos, or by imprisonment not to exceed one year, or by both such fine and imprisonment, in the discretion of the court: *Provided*, That no article shall be deemed misbranded or adulterated within the provisions of this Act when intended for export to the United States or to any foreign country and prepared or packed according to the specifications or directions of the purchaser in the United States or in any foreign country when no substance is used in the preparation or packing thereof in conflict with the laws of the United States or of the foreign country to which said article is intended to be shipped; but if said article shall be in fact sold or offered for sale for domestic use or consumption in the Philippine Islands, then this proviso shall not exempt said article from the operation of any of the other provisions of this Act.

SEC. 3. The Insular Collector of Customs, the Director of Health, and the Collector of Internal Revenue of the Philippine Islands shall make uniform rules

and regulations, subject to the approval of the Secretary of the Interior of the Philippine Islands, for carrying out the provisions of this Act, including the collection and examination of specimens of foods and drugs manufactured or offered for sale in the Philippine Islands or which shall be received from the United States or from any foreign country, or intended for shipment to the United States or to any foreign country, or which may be submitted for examination by the Director of Health for the Philippine Islands.

SEC. 4. The examinations of specimens of foods and drugs shall be made in the Bureau of Science, or under the direction and supervision of that Bureau, for the purpose of determining from such examinations whether such articles are adulterated or misbranded within the meaning of this Act; and if it shall appear from any such examination that any of such specimens is adulterated or misbranded within the meaning of this Act, the Secretary of the Interior of the Philippine Islands shall cause notice thereof to be given to the party from whom such sample was obtained. Any party so notified shall be given an opportunity to be heard, under such rules and regulations as may be prescribed as aforesaid, and if it appears that any of the provisions of this Act have been violated by such party, then the Secretary of the Interior of the Philippine Islands shall at once certify the facts to the Attorney-General of the Philippine Islands with a copy of the results of the analysis or a report of the examination of such article duly authenticated by the analyst or officer making such examination, under the oath of such officer. After judgment of the court, notice shall be given by publication in such manner as may be prescribed by the rules and regulations aforesaid.

SEC. 5. It shall be the duty of the Attorney-General of the Philippine Islands, to whom the Secretary of the Interior of the Philippine Islands shall report any violation of this Act, or to whom the Director of Health shall present satisfactory evidence of any such violation, to cause appropriate proceedings to be commenced and prosecuted in the proper courts of the Philippine Islands, without delay, for the enforcement of the penalties as in such case herein provided.

SEC. 6. The term "drug," as used in this Act, shall include all medicines and preparations recognized in the United States Pharmacopœia or National Formulary for internal or external use, and any substance or mixture of substances intended to be used for the cure, mitigation, or prevention of disease of either man or other animals. The term "food," as used herein, shall include all articles used for food, drink, confectionery, or condiment by man or other animals, whether simple, mixed, or compounded.

SEC. 7. For the purposes of this Act an article shall be deemed to be adulterated:

In case of drugs:

First. If, when a drug is sold under or by a name recognized in the United States Pharmacopœia or National Formulary, it differs from the standard of strength, quality, or purity, as determined by the test laid down in the United States Pharmacopœia or National Formulary, official at the time of investigation: *Provided*, That no drug defined in the United States Pharmacopœia or National Formulary shall be deemed to be adulterated under this provision if the standard of strength, quality, or purity be plainly stated upon the bottle, box, or other container thereof although the standard may differ from that determined by the test laid down in the United States Pharmacopœia or National Formulary.

Second. If its strength or purity fall below the professed standard or quality under which it is sold.

In case of confectionery:

If it contain terra alba, barytes, talc, chrome yellow, or other mineral substance

or poisonous color or flavor, or other ingredient deleterious or detrimental to health, or any vinous, malt, or spirituous liquor or compound or narcotic drug.

In the case of food:

First. If any substance has been mixed and packed with it so as to reduce or lower or injuriously affect its quality or strength.

Second. If any substance has been substituted wholly or in part for the article.

Third. If any valuable constituent of the article has been wholly or in part abstracted.

Fourth. If it be mixed, colored, powdered, coated, or stained in a manner whereby damage or inferiority is concealed.

Fifth. If it contain any added poisonous or other added deleterious ingredient which may render such article injurious to health: *Provided*, That when in the preparation of food products for shipment they are preserved by any external application applied in such manner that the preservative is necessarily removed mechanically, or by maceration in water, or otherwise, and directions for the removal of said preservative shall be printed on the covering or the package, the provisions of this Act shall be construed as applying only when said products are ready for consumption.

Sixth. If it consists in whole or in part of a filthy, decomposed, or putrid animal or vegetable substance, or any portion of an animal unfit for food, whether manufactured or not, or if it is the product of a diseased animal, or one that has died otherwise than by slaughter.

SEC. 8. The term "misbranded," as used herein, shall apply to all drugs, or articles of food, or articles which enter into the composition of food, the package or label of which shall bear any statement, design, or device regarding such article, or the ingredients or substances contained therein, which is false or misleading in any particular, and to any food or drug product which is falsely branded as to the State, Territory, or country in which it is manufactured or produced.

That for the purposes of this Act an article shall also be deemed to be misbranded:

In case of drugs:

First. If it be an imitation of or offered for sale under the name of another article.

Second. If the contents of the package as originally put up shall have been removed, in whole or in part, and other contents shall have been placed in such package, or if the package fail to bear a statement on the label of the quantity or proportion of any alcohol, morphine, opium, cocaine, heroin, alpha or beta eucaine, chloroform, cannabis indica, chloral hydrate, or acetanilide, or any derivative or preparation of any such substances contained therein.

In the case of food:

First. If it be an imitation of, or offered for sale under, the distinctive name of another article.

Second. If it be labeled or branded so as to deceive or mislead the purchaser, or purport to be a foreign product when not so, or if the contents of the package as originally put up shall have been removed in whole or in part and other contents shall have been placed in such package, or if it fail to bear a statement on the label of the quantity or proportion of any morphine, opium, cocaine, heroin, alpha or beta eucaine, chloroform, cannabis indica, chloral hydrate, or acetanilide or any derivative or preparation of any of such substances contained therein.

Third. If in package form, and the contents are stated in terms of weight or measure, they are not plainly and correctly stated on the outside of the package.

Fourth. If the package containing it or its label shall bear any statement, design, or device regarding the ingredients or the substances contained therein, which statement, design, or device is false or misleading in any particular: *Provided*, That an article of food which does not contain any added poisonous or deleterious ingredients shall not be deemed to be adulterated or misbranded in the following cases:

First. In the case of mixtures or compounds which may be now or from time to time hereafter known as articles of food, under their own distinctive names, and not an imitation of or offered for sale under the distinctive name of another article, if the name be accompanied on the same label or brand with a statement of the place where said article has been manufactured or produced.

Second. In the case of articles labeled, branded, or tagged so as to plainly indicate that they are compounds, imitations, or blends, and the word "compound," "imitation," or "blend," as the case may be, is plainly stated on the package in which it is offered for sale: *Provided*, That the term blend as used herein shall be construed to mean a mixture of like substances, not excluding harmless coloring or flavoring ingredients used for the purpose of coloring and flavoring only: *And provided further*, That nothing in this Act shall be construed as requiring or compelling proprietors or manufacturers of proprietary foods which contain no unwholesome added ingredient to disclose their trade formulas, except in so far as the provisions of this Act may require to secure freedom from adulteration or misbranding.

SEC. 9. No dealer shall be prosecuted under the provisions of this Act when he can establish a guaranty signed by the wholesaler, jobber, manufacturer, or other party residing in the Philippine Islands, from whom he purchases such articles, to the effect that the same is not adulterated or misbranded within the meaning of this Act, designating it. Said guaranty, to afford protection, shall contain the name and address of the party or parties making the sale of such articles to such dealer, and in such case said party or parties shall be amenable to the prosecutions, fines, and other penalties which would attach, in due course, to the dealer under the provisions of this Act.

SEC. 10. Any article of food, drug, or liquor that is adulterated or misbranded within the meaning of this Act, that, having been transported, remains unloaded, unsold, or in original unbroken packages, or if it be sold or offered for sale in the Philippine Islands, or if it be imported from the United States or a foreign country for sale, or if it is intended for export to the United States or to a foreign country, shall be liable to be proceeded against in the Court of First Instance in the Philippine Islands of the judicial district within which the same is found, and shall be seized for confiscation and condemnation, and may be confiscated and condemned by said court in the proceedings so initiated. And if such article is condemned as being adulterated or misbranded, or as of a poisonous or deleterious character, within the meaning of this Act, the same shall be disposed of by destruction or sale, as the said court may direct, and the proceeds thereof, if sold, less the legal costs and charges, shall be paid into the Treasury of the Philippine Islands, but such goods shall not be sold in any jurisdiction contrary to the provisions of this Act or to the laws of that jurisdiction: *Provided, however*, That upon the payment of the costs of the proceedings as provided in this section and the execution and delivery of a good and sufficient bond to the effect that such articles shall not be sold or otherwise disposed of contrary to the provisions of this Act or the laws of the United States, or of any State, Territory, District, or insular possession of the United States, the court may by order direct that such articles be

delivered to the owner thereof. The proceedings hereinbefore mentioned shall conform, as near as may be, to the proceedings in admiralty in the Courts of First Instance of the Philippine Islands, and all such proceedings shall be at the suit of and in the name of the United States.

SEC. 11. The Insular Collector of Customs shall deliver to the Director of Health, upon his request from time to time, samples of food and drugs which are being imported into the Philippine Islands or offered for import, giving notice thereof to the owner or consignee, who may appear before the Secretary of the Interior of the Philippine Islands or any official designated by him and have the right to introduce testimony, and if it appear from the examination of such samples that any article of food or drug offered to be imported into the Philippine Islands is adulterated or misbranded within the meaning of this Act, or is otherwise dangerous to the health of the people of the Philippine Islands, or is of a kind forbidden entry into, or forbidden to be sold or restricted in sale in the country in which it is made or from which it is exported, or is otherwise falsely labeled in any respect, the said article shall be refused admission, and the Insular Collector of Customs shall refuse delivery to the consignee and shall cause the destruction of any goods refused delivery which shall not be exported by the consignee within three months from the date of notice of such refusal under such regulations as the Insular Collector of Customs may prescribe: *Provided*, That the Insular Collector of Customs may deliver to the consignee such goods pending examination and decision in the matter, on execution of a penal bond for the amount of the full invoice value of such goods, together with the duty thereon, and on refusal to return such goods for any cause to the custody of the Insular Collector of Customs, when demanded, for the purpose of excluding them from the country, or for any other purpose, said consignee shall forfeit the full amount of the bond: *And provided further*, That all charges for storage, cartage, and labor on goods which are refused admission or delivery shall be paid by the owner or consignee, and in default of such payment shall constitute a lien against any future importation made by such owner or consignee.

SEC. 12. The word "person" as used in this Act shall be construed to import both the plural and the singular, as the case demands; and shall include corporations, companies, societies, associations, and other commercial or legal entities. When construing and enforcing the provisions of this Act, the act, omission, or failure of any officer, agent, or other person acting for or employed by any corporation, company, society, association, or other commercial or legal entity, within the scope of his employment or office, shall in every case be also deemed to be the act, omission, or failure of such corporation, company, society, association, or other commercial or legal entity, as well as that of the person.

SEC. 13. The public good requiring the speedy enactment of this bill, the passage of the same is hereby expedited in accordance with section two of "An act prescribing the order of procedure by the Commission in the enactment of laws," passed September twenty-sixth, nineteen hundred.

SEC. 14. This Act shall take effect on its passage: *Provided*, That any article, the importation, offer, sale, transportation, or use of which is prohibited or restricted by this Act, which is in transit to the Philippine Islands at the time of the passage of this Act, shall not be subject to the fines, penalties or forfeitures herein prescribed, but may, under rules and regulations to be prescribed by the Insular Collector of Customs, and approved by the Secretary of Finance and Justice, be returned to the port from which it was shipped: *Provided further*, That this privilege shall not be extended beyond a period of sixty days after the date of the passage of this Act.

Enacted, May 18, 1907.

**RULES AND REGULATIONS FOR THE ENFORCEMENT OF THE PURE FOOD AND
DRUGS ACT.**

GENERAL.

REGULATION 1. *Short title of the act.*—The act entitled “An act for preventing the manufacture, sale, or transportation of adulterated or misbranded or poisonous or deleterious foods, drugs, medicines, and liquors, and for regulating traffic therein, and for other purposes,” enacted May 18, 1907, shall be known and referred to as “The Pure Food and Drugs Act.”

REGULATION 2. *Original unbroken package.*—The term “original unbroken package” as used in this act is the original package, carton, case, can, box, barrel, bottle, phial, or other receptacle put up by the manufacturer, to which the label is attached, or which may be suitable for the attachment of a label, making one complete package of the food or drug article. The original package contemplated includes both the wholesale and the retail package.

REGULATION 3. *Collection of samples* (sec. 2).—(a) Whenever a customs, health, or internal-revenue officer has cause for believing or suspecting that an article of food or drug which is being imported into, manufactured, or offered for sale in the Philippine Islands, or which is for the purpose of exportation from the Philippine Islands to the United States, or any foreign country, or which has been imported into the Philippine Islands from the United States, or any foreign country, a sample or specimen of the articles suspected as being adulterated or misbranded, except in the cases provided for in Regulations 17 to 20, will be seized from the owner thereof and a receipt given therefor, and such sample will be forwarded to the Director of Health through the Chief of the Bureau to which the seizing officer belongs with a full and complete statement of the case, giving name of the person from whom taken, quantity of same on hand, in which capacity the person from whom taken was acting—whether as an importer, a manufacturer of the article, or dealer therein, or a consumer thereof—and will furnish such other information as in the opinion of the customs, health, or internal-revenue officer will be of assistance in the proper administration of the law.

(b) Representative samples shall be taken, discretion being used as to the amount thereof; in general, one kilogram of bulk goods, or one liter of liquid goods being sufficient. Much smaller samples will serve in the case of drugs. In the case of bottled goods, one bottle will usually be found to be sufficient.

(c) Sample of bulk goods will be immediately placed in tin boxes or other suitable coverings and sealed by the officer taking the same.

(d) In all cases where samples of goods are to be taken the owner will be given such notice thereof as the circumstances of the case permit, and whenever possible, samples shall be taken and sealed in his presence. Samples shall be taken and sealed in duplicate, one such sample to be transmitted as above stated to the Bureau of Health, and the other to be delivered to the importer or owner thereof, if he desire the same.

In order properly to perform the duties set forth above, customs, health, and internal-revenue officers should give all publicity to the fact that they are charged with the duty of carrying out the provisions of The Pure Food and Drugs Act, and should invite complaints and reports from all persons in their respective districts regarding adulteration or misbranding articles of food or drugs.

REGULATION 4. *Hearings* (sec. 4).—(a) When the examination or analysis shows that the provisions of The Pure Food and Drugs Act have been violated, notice of that fact, together with a copy of the findings, shall be furnished to the party or parties from whom the sample was obtained or who executed the guar-

anty as provided in The Pure Food and Drugs Act, and a date shall be fixed at which such party or parties may be heard before the Secretary of the Interior, or other officer designated by him. The hearings shall be had at a place, to be designated by the Secretary of the Interior, most convenient for all parties concerned. These hearings shall be private and confined to question of fact. The parties interested therein may appear in person or by attorney and may propound proper interrogatories and submit oral or written evidence to show any fault or error in the findings of the analyst or examiner. The Secretary of the Interior may order a reexamination of the sample or have new samples drawn for further examination.

(b) If the examination or analysis be found correct the Secretary of the Interior shall give notice to the Attorney-General of the Philippine Islands as prescribed.

(c) Any customs, health, or internal-revenue officer who shall obtain satisfactory evidence of any violation of The Pure Food and Drugs Act, as provided in section 5 thereof, shall first submit the same to the Director of Health, through the Chief of his Bureau, in order that the former may cause notice to be given to the guarantor or to the party from whom the sample was obtained.

REGULATION 5. *Publication* (sec. 4).—(a) When a judgment of the court shall have been rendered there may be a publication of the findings of the examiner or analyst, together with the findings of the court.

(b) This publication may be made by means of circulars, notices, or bulletins, or the Official Gazette, as the Secretary of the Interior may direct, not less than thirty days after judgment.

(c) If an appeal be taken from the judgment of the court before such publication, notice of the appeal shall accompany the publication.

REGULATION 6. *Standards for drugs* (sec. 7).—(a) A drug bearing a name recognized in the United States Pharmacopœia or National Formulary, without any further statement respecting its character, shall be required to conform in strength, quality, and purity to the standards prescribed or indicated for a drug of the same name recognized in the United States Pharmacopœia or National Formulary, official at the time.

(b) A drug bearing a name recognized in the United States Pharmacopœia or National Formulary, and branded to show a different standard of strength, quality, or purity, shall not be regarded as adulterated if it conforms to its declared standard.

REGULATION 7. *Formulas; proprietary foods* (sec. 8, second paragraph).—(a) Manufacturers of proprietary foods are only required to state upon the label the names and percentages of the materials used, in so far as the Director of Health may find this to be necessary to secure freedom from adulteration and misbranding.

(b) Factories in which proprietary foods are made shall be open at all reasonable times to the inspection provided for in Regulation 15.

REGULATION 8. *Form of guaranty* (sec. 9).—(a) No dealer in food or drug products will be liable to prosecution if he can establish that the goods were sold under a guaranty by the wholesaler, manufacturer, jobber, dealer, or other party residing in the Philippine Islands from whom purchased.

(b) A general guaranty may be filed with the Director of Health by the manufacturer or dealer and be given a serial number, which number shall appear on each and every package of goods sold under such guaranty with the words "Guaranteed under The Pure Food and Drugs Act."

(c) The following form of guaranty is suggested:

"I (we), the undersigned, do hereby guarantee that the articles of food or

drugs manufactured, packed, distributed, or sold by me (us) (specifying the same as fully as possible) are not adulterated or misbranded within the meaning of The Pure Food and Drugs Act.

(Signed in ink)

(Name of place of business of wholesaler, dealer, manufacturer, jobber, or other party.)

(d) If the guaranty be not filed with the Director of Health as above it should identify and be attached to the bill of sale, invoice, bill of lading, or other schedule, giving the names and quantities of the articles sold.

ADULTERATION.

REGULATION 9. Confectionery (sec. 7).—(a) Mineral substances of all kinds (except as provided in Regulation 14) are specifically forbidden in confectionery whether they be poisonous or not.

(b) Only harmless colors or flavors shall be added to confectionery.

(c) The term "narcotic drugs" includes all the drugs mentioned in section 8, The Pure Food and Drugs Act, relating to foods, their derivatives and preparations, and all other drugs of a narcotic nature.

REGULATION 10. Substances mixed and packed with foods (sec. 7, under "Food").—No substances may be mixed or packed with a food product which will reduce or lower its quality or strength. Not excluded under this provision are substances properly used in the preparation of food products for clarification or refining and eliminated in the further process of manufacture.

REGULATION 11. Coloring, powdering, coating, and staining (sec. 7, under "Food").—(a) Only harmless colors may be used in food products.

(b) The reduction of a substance to a powder to conceal inferiority in character is prohibited.

(c) The term "powdered" means the application of any powdered substance to the exterior portion of articles of food, or the reduction of a substance to a powder.

(d) The term "coated" means the application of any substance to the exterior portion of a food product.

(e) The term "stain" includes any change produced by the addition of any substance to the exterior portion of foods which in any way alters their natural tint.

REGULATION 12. Natural poisonous or deleterious ingredients (sec. 7, paragraph 5, under "Food").—Any food product which contains naturally a poisonous or deleterious ingredient does not come within the provisions of The Pure Food and Drugs Act, except when the presence of such ingredient is due to filth, putrescence, or decomposition.

REGULATION 13. External application of preservatives (sec. 7, paragraph 5, under "Food," proviso).—(a) Poisonous or deleterious preservatives shall be applied externally only, and they and the food products shall be of a character which shall not permit the permeation of any of the preservative to the interior, or any portion of the interior, of the product.

(b) When these products are ready for consumption, if any portion of the added preservative shall have penetrated the food product, then the proviso of section 7, paragraph 5, under "Foods," shall not obtain, and such food products shall then be subject to the regulations for food products in general.

(c) The preservative applied must be of such a character that, until removed, the food products are inedible.

REGULATION 14. Wholesomeness of colors and preservatives (sec. 7, paragraph 5, under "Food").—(a) Respecting the wholesomeness of colors, preservatives, and

other substances which are added to foods, the Director of Health shall determine, from chemical or other examination, the names of those substances which are permitted or inhibited in food products; and such findings shall, when published, become a part of these regulations.

(b) The Director of Health shall determine from time to time the principles which shall guide the use of colors, preservatives, and other substances added to foods, and the principles so established shall, when published, become a part of these regulations.

REGULATION 15. *Character of raw materials* (sec. 7, paragraph 1, under "Drugs;" paragraph 6, under "Foods").—(a) The Director of Health, when he deems it necessary, shall cause to be examined the raw materials used in the manufacture of food and drug products, and determine whether any filthy, decomposed, or putrid substance is used in their preparation.

(b) The Director of Health shall cause such examinations to be made as often as he may deem necessary.

MISBRANDING.

REGULATION 16. *Label* (sec. 8).—(a) The term "label" applies to any printed, pictorial, or other matter upon or attached to any package of a food or drug product, or any container thereof.

(b) The principal label shall consist, first, of all words which The Pure Food and Drugs Act specifically requires, to wit: The name of the substance or product; the name of the place of manufacture in the case of food compounds or mixtures; the words which show that the articles are compounds, mixtures, or blends; the words "compound," "mixture," or "blend;" or words designating the substances or their derivatives and proportions required to be named in the case of drugs and foods. All these required words shall appear upon the principal label with no intervening descriptive or explanatory reading matter. Second, if the name of the manufacturer and place of manufacture are given, they shall also appear upon the principal label. Third, elsewhere upon the principal label other matter may appear in the discretion of the manufacturer.

(c) The principal label on food or drugs for domestic commerce shall be printed in English (except as provided in Regulation 18), with or without the foreign label in the language of the country where the food or drug product is produced or manufactured. The size of type shall not be smaller than eight-point (brevier) capitals: *Provided*, That in case the size of the package will not permit the use of eight-point capital type the size of the type may be reduced proportionately.

(d) The form, character, and appearance of the labels, except as provided above, are left to the judgment of the manufacturer.

(e) Descriptive matter upon the label shall be free from any statement, design, or device regarding the article or ingredients or substances contained therein, or quality thereof, or place of origin, which is false or misleading in any particular.

(f) An article containing more than one food product or active medicinal agent is misbranded if named after a single constituent.

In the case of drugs the nomenclature employed by the United States Pharmacopœia and the National Formulary shall obtain.

(g) The term "design" or "device" applies to pictorial matter of every description, and to abbreviations, characters, or signs for weights, measures, or names of substances.

In every case where weights or measures are given for articles manufactured in the Philippine Islands, the same shall be expressed in the metric system.

(h) The use of any false or misleading statement, design, or device shall not be justified by any statement given as the opinion of an expert or other person, appearing on any part of the label, nor by any descriptive matter explaining the use of the false or misleading statement, design, or device.

(i) The regulation regarding the principal label will not be enforced until January 1, 1908, in the case of labels printed and now on hand, whenever any statement therein contained which is contrary to The Pure Food and Drugs Act, as to character of contents, shall be corrected by a supplemental label, stamp, or pastar. All other labels now printed and on hand may be used without change until January 1, 1908.

REGULATION 17. *Name and address of manufacturer* (sec. 8).—(The name of the manufacturer or producer, or the place where manufactured, except in case of mixtures and compounds having a distinctive name, need not be given upon the label, but if given, must be the true name and the true place. The words “packed for,” “distributed by,” or some equivalent phrase, shall be added to the label in case the name which appears upon the label is not that of the actual manufacturer or producer, or the name of the place not the actual place of manufacture or production.

(b) When a person, firm, or corporation actually manufactures or produces an article of food or drug in two or more places, the actual place of manufacture or production of each particular package need not be stated on the label except when in the opinion of the Director of Health the mention of any such place, to the exclusion of the others, misleads the public.

REGULATION 18. *Character of name* (sec. 8).—(a) A simple or unmixed food or drug product not bearing a distinctive name shall be designated by its common name in the English language, or, if a drug, by any name recognized in the United States Pharmacopœia or National Formulary. No further description of its components or qualities is required, except as to contents of alcohol, morphine, etc.

(b) The use of a geographical name shall not be permitted in connection with a food or drug product not manufactured or produced in that place, when such name indicates that the article was manufactured or produced in that place.

(c) The use of a geographical name in connection with a food or drug product will not be deemed a misbranding when by reason of long usage it has come to represent a generic term and is used to indicate a style, type, or brand; but in all such cases the State, Territory, country, or dependency where any such article is manufactured or produced shall be stated upon the principal label.

(d) A foreign name which is recognized as distinctive of a product of a foreign country shall not be used upon an article of domestic origin except as an indication of the type or style of quality or manufacture, and then only when so qualified that it can not be offered for sale under the name of a foreign article.

(e) Where the only fault found with an importation is the failure properly to mark or brand the name of the place of origin as above required, such marks or brands may be added under customs supervision at the expense of the importer, and when properly branded, goods may be delivered upon payment of such charges. In this case it is not necessary to send samples to the Director of Health.

REGULATION 19.—*Distinctive name* (sec. 8).—(a) A “distinctive name” is a trade, arbitrary, or fancy name which clearly distinguishes a food product, mixture, or compound from any other food product, mixture, or compound.

(b) A distinctive name shall not be one representing any single constituent of a mixture or compound.

(c) A distinctive name shall not misrepresent any property or quality of a mixture or compound.

(d) A distinctive name shall give no false indication of origin, character, or

place of manufacture, nor lead the purchaser to suppose that it is any other food or drug product.

REGULATION 20. *Compounds, imitations, or blends without distinctive name* (sec. 8).—(a) The term “blend” applies to a mixture of like substances, not excluding harmless coloring or flavoring ingredients used for the purpose of coloring and flavoring only.

(b) If any age is stated, it shall not be that of a single one of its constituents, but shall be the average of all constituents in their respective proportions.

(c) Coloring and flavoring can not be used for increasing the weight or bulk of a blend.

(d) In order that colors or flavors may not increase the volume or weight of a blend, they are not to be used in quantities exceeding 1 pound to 800 pounds of the blend.

(e) A color or flavor can not be employed to imitate any natural product or any other product of recognized name and quality.

(f) The term “imitation” applies to any mixture or compound which is a counterfeit or fraudulent simulation of any article of food or drug.

REGULATION 21. *Articles without a label* (sec. 8, paragraph 1, under “Drugs;” paragraph 1, under “Foods”).—It is prohibited to sell or offer for sale a food or drug product bearing no label upon the package or no descriptive matter whatever connected with it, either by design, device, or otherwise, if said product be an imitation of or offered for sale under the name of another article.

REGULATION 22. *Proper branding not a complete guaranty.*—Packages which are correctly branded as to character of contents, place of manufacture, name of manufacturer, or otherwise, may be adulterated and hence not entitled to enter into, or to be sold, bartered, exchanged or given away in the Philippine Islands.

REGULATION 23. *Incompleteness of branding.*—A compound shall be deemed misbranded if the label be incomplete as to the names of the required ingredients. A simple product does not require any further statement than the name or distinctive name thereof, except as provided in Regulations 18 (a) and 27.

REGULATION 24. *Substitution* (secs. 7 and 8).—(a) When a substance of a recognized quality commonly used in the preparation of a food or drug product is replaced by another substance not injurious or deleterious to health, the name of the substituted substance shall appear upon the label.

(b) When any substance which does not reduce, lower, or injuriously affect its quality or strength is added to a food or drug product, other than that necessary to its manufacture or refining, the label shall bear a statement to that effect.

REGULATION 25. *Waste materials* (sec. 8).—When an article is made up of refuse materials, fragments, or trimmings, the use of the name of the substance from which they are derived, unless accompanied by a statement to that effect, shall be deemed a misbranding. Packages of such materials may be labeled “pieces,” “stems,” “trimmings,” or with some similar appellation.

REGULATION 26. *Mixtures or compounds with distinctive names* (sec. 8, first proviso under “Food,” paragraph 1).—(a) The terms “mixtures” and “compounds” are interchangeable and indicate the results of putting together two or more food products.

(b) These mixtures or compounds shall not be imitations of other articles, whether simple, mixed, or compound, or offered for sale under the name of other articles. They shall bear a distinctive name and the name of the place where the mixture or compound has been manufactured or produced.

(c) If the name of the place be one which is found in different States, Territories, countries, or dependencies, the name of the State, Territory, country, or dependency, as well as the name of the place, must be stated.

REGULATION 27. *Substances named in drugs and foods* (sec. 8, second under

"Drugs;" second under "Food").—(a) The term "alcohol" is defined to mean common or ethyl alcohol. No other kind of alcohol is permissible in the manufacture of drugs except as specified in the United States Pharmacopœia or National Formulary.

(b) The words "alcohol," "morphine," "opium," etc., and the quantities and proportions thereof, shall be printed in letters corresponding in size with those prescribed in Regulation 16, paragraph (c).

(c) A drug, or food product, except in respect of alcohol, is misbranded in case it fails to bear a statement on the label of the quantity or proportion of any alcohol, morphine, opium, heroin, cocaine, alpha or beta eucaine, chloroform, cannabis indica, chloral hydrate, or acetanilide, or any derivative or preparation of any such substances contained therein.

(d) A statement of the maximum quantity or proportion of any such substances present will meet the requirements: *Provided*, That the maximum stated does not vary materially from the average quantity or proportion.

(e) In case the actual quantity or proportion is stated it shall be the average quantity or proportion with the variations noted in Regulation 28.

(f) The following are the principal derivatives and preparations made from the articles which are required to be named upon the label:

Alcohol, ethyl (Cologne spirits, grain alcohol, rectified spirits, spirits, and spirits of wine):

Derivatives—

Aldehyde, ether, ethyl acetate, ethyl nitrite, and paraldehyde.

Preparations containing alcohol—

Bitters, brandies, cordials, elixirs, essences, fluid extracts, spirits, sirups, tinctures, tonics, whiskies, and wines.

Morphine, alkaloid:

Derivatives—

Apomorphine, dionine, peronine, morphine acetate, hydrochloride, sulphate, and other salts of morphine.

Preparations containing morphine or derivatives of morphine—

Bougies, catarrh snuff, chlorodyne, compound powder of morphine, crayons, elixirs, granules, pills, solutions, sirups, suppositories, tablets, triturations, and troches.

Opium, gum:

Preparations of opium—

Extracts, denarcotized opium, granulated opium, and powdered opium, bougies, brown mixture, carminative mixtures, crayons, Dover's powder, elixirs, liniments, ointments, paregoric, pills, plasters, sirups, suppositories, tablets, tinctures, troches, vinegars, and wines.

Derivatives—

Codeine, alkaloid, hydrochloride, phosphate, sulphate, and other salts of codeine.

Preparations containing codeine or its salts—

Elixirs, pills, sirups, and tablets.

Cocaine, alkaloid:

Derivatives—

Cocaine hydrochloride, oleate, and other salts.

Preparations containing cocaine or salts of cocaine—

Coca leaves, catarrh powders, elixirs, extracts, infusion of coca, ointments, paste pencils, pills, solutions, sirups, tablets, tinctures, troches, and wines.

Heroin:

Preparations containing heroin—

Sirups, elixirs, pills, and tablets.

Alpha and beta eucaine:

Preparations—

Mixtures, ointments, powders, and solutions.

Chloroform:

Preparations containing chloroform—

Chloranodyne, elixirs, emulsions, liniments, mixtures, spirits, and sirups.

Cannabis indica:

Preparations of cannabis indica—

Corn remedies, extracts, mixtures, pills, powders, tablets, and tinctures.

Chloral hydrate (chloral, United States Pharmacopœia, 1890):

Derivatives—

Chloral acetophenonoxim, chloral alcoholate, chloralamide, chloralimide, chloral orthoform, chloralose, dormiol, hypnal, and uraline.

Preparations containing chloral hydrate or its derivatives—

Chloral camphorate, elixirs, liniments, mixtures, ointments, suppositories, sirups, and tablets.

Acetanilide (antifebrine, phenylacetamide):

Derivatives—

Acetphenetidine, citrophen, diacetanilide, lactophenin, methoxy-acetanilide, methylacetanilide, para-iodoacetanilide, and phenacetine.

Preparations containing acetanilide or derivatives—

Analgesics, antineuralgics, antirheumatics, cachets, capsules, cold remedies, elixirs, granular effervescent salts, headache powders, mixtures, pain remedies, pills, and tablets.

REGULATION 28. *Statement of weight or measure* (sec. 8, paragraph 3, under "Food").—(a) A statement of the weight or measure of the food contained in a package is not required. If any such statement is printed, it shall be a plain and correct statement of the average net weight or volume, either on or immediately above or below the principal label, and of the size of letters specified in Regulation 16.

(b) A reasonable variation from the stated weight for individual packages is permissible, provided this variation is as often above as below the weight or volume stated. This variation shall be determined by the inspector from the changes in the humidity of the atmosphere, from the exposure of the package to evaporation or to absorption of water, and to the reasonable variations which attend the filling and weighing or measuring of a package.

REGULATION 29. *Method of stating quantity or proportion* (sec. 8).—In the case of alcohol the expression "quantity" or "proportion" shall mean the average percentage by volume in the finished product. In the case of the other ingredients required to be named upon the label, the expression "quantity" or "proportion" shall mean grains or minims per ounce or fluid ounce, and also, if desired, the metric equivalents therefor, or milligrams per gram or per cubic centimeter, or grams or cubic centimeters per kilogram or per liter; provided that these articles shall not be deemed misbranded if the maximum of quantity or proportion be stated, as required in Regulation 27 (d).

EXPORTS AND IMPORTS OF FOODS AND DRUGS.

REGULATION 30. *Preparation of food products for export* (sec. 2).—(a) Food products intended for export may contain added substances not permitted in foods intended for local consumption when the addition of such substances does not conflict with the laws of the countries to which the food products are to be exported and when such substances are added in accordance with the directions of the foreign purchaser or his agent.

(b) The exporter is not required to furnish evidence that the goods have been prepared or packed in compliance with the laws of the foreign country to which said goods are intended to be shipped, but such shipment is made at his own risk.

(c) Food products for export under this regulation shall be kept separate and labeled to indicate that they are for export.

(d) If the products are not exported they shall not be allowed to be consumed locally.

REGULATION 31. *Imported food and drug products* (sec. 11).—(a) Meat and meat food products imported into the Philippine Islands shall be accompanied by a certificate of official inspection of a character to satisfy the Director of Health that they are not dangerous to health, and each package of such articles shall bear a label which shall identify it as covered by the certificate, which certificate shall accompany or be attached to the invoice on which entry is made.

(b) The certificate shall set forth the official position of the inspector and the character of the inspection.

(c) Meat and meat food products as well as all other food and drug products of a kind forbidden entry into or forbidden to be sold or restricted in sale in the country in which made or from which exported will be refused admission.

REGULATION 32. *Denaturing* (sec. 11).—Unless otherwise declared on the invoice or entry, all substances ordinarily used as food products will be treated as such. Shipments of substances ordinarily used as food products intended for technical purposes must be accompanied by a declaration stating that fact, and must be so denatured as to prevent their use as foods.

REGULATION 33. *Bond, imported foods and drugs* (sec. 11).—(a) Unexamined packages of food and drug products may be delivered to the consignee prior to the completion of the examination to determine whether the same are adulterated or misbranded, upon the execution of a penal bond by the consignee in the sum of the invoice value of such goods with the duty added, for the return of the goods to customs custody.

(b) In case the goods have already been delivered on ten days' penal bond for return of unexamined packages and it is desired to hold them for examination under The Pure Food and Drugs Act, demand must be made upon the importer for return within the ten days of the original bond, when a bond under section (a) above may be accepted in lieu of an actual physical return of the goods to customs custody.

(c) Where the importer does not desire to keep possession of the goods they will be stored in the warehouse of the custom-house, or in a public bonded warehouse at his expense for storage, cartage, and labor.

(d) No delivery of imported food or drugs suspected of being adulterated or misbranded will be made until the question is finally settled as hereafter provided, nor shall final liquidation of the entry be made while such question is pending.

REGULATION 34. *Notification of violation of the law* (sec. 11).—(a) If the sample on analysis or examination be found not to comply with the law, the importer shall be notified of the nature of the violation, the time and place at which final action will be taken upon the question of the exclusion of shipment, and that he may be present, and submit evidence in connection therewith.

REGULATION 35. *Appeal to the Secretary of the Interior* (sec. 11).—All applications for relief from decisions arising under the execution of the law shall be addressed to the Secretary of the Interior.

REGULATION 36. *Shipment beyond the jurisdiction of the Philippine Islands* (sec. 11).—The time allowed the importer for representations regarding shipment may be extended at his request to permit him to secure such evidence as he desires, provided that this extension of time does not entail any expense to the Bureau of Health. If at the expiration of this time, in view of the data secured in inspecting the sample and such evidence as may have been submitted by the manufacturers or importers, it appears that the shipment can not be legally imported into the Philippine Islands, the Director of Health shall request the Insular Collector of Customs to refuse to deliver the shipment in question to the consignee, and to require its reshipment as authorized by law.

REGULATION 37. *Samples*.—The samples made necessary under The Pure Food and Drugs Act, and by these regulations, shall be furnished by the owner or the importer thereof, at his expense.

REGULATION 38. *Inspection of samples*.—All articles of food and all food and drink sold or offered for sale, and all places for their preparation, manufacture, or sale, shall be at all times subject to inspection by the Director of Health or the Collector of Internal Revenue, or their duly authorized representatives. Necessary samples of food or drink shall be furnished for examination upon the written request of the Director of Health or the Collector of Internal Revenue, and no remuneration shall be charged or paid therefor.

REGULATION 39. *Alteration and amendment of regulations*.—By and with the approval of the Secretary of the Interior these regulations may be altered or amended at any time, without previous notice, with the concurrence of the Insular Collector of Customs, the Director of Health, and the Collector of Internal Revenue, or any two of them.

H. B. MCCOY,
Acting Insular Collector of Customs.

VICTOR G. HEISER,
Director of Health.



JNO. S. HORD,
Collector of Internal Revenue.

Approved, May 23, 1907:

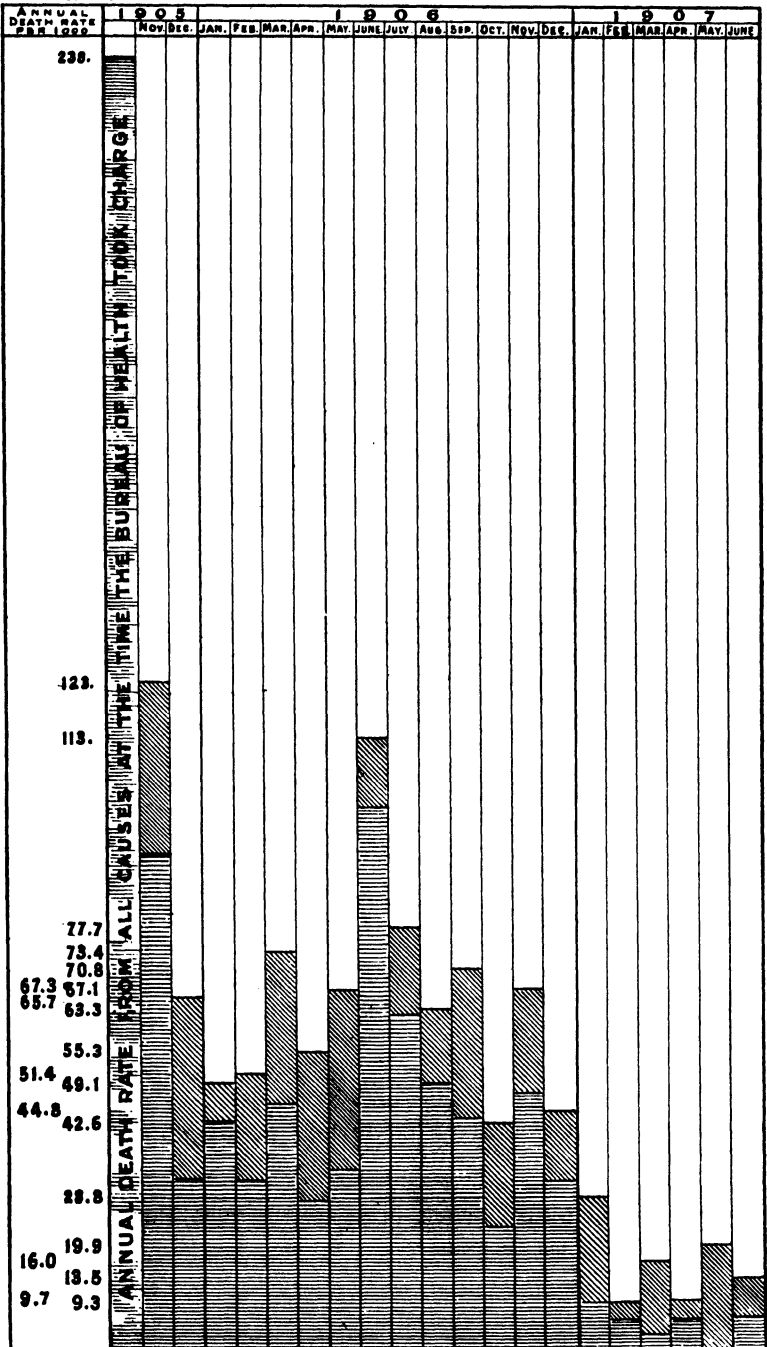
DEAN C. WORCESTER,
Secretary of the Interior.

IMPROVEMENT IN HEALTH CONDITIONS IN BILIBID PRISON.

At the time the Bureau of Health took charge of the sanitation and care of the sick at Bilibid Prison, in September, 1905, the annual mortality rate was 238 per thousand.

NOTICE:
 TUBERCULOSIS.
 GENERAL DISEASES.

ANNUAL MORTALITY, BILIBID PRISON (HOSPITALS "A" & "B")
 FROM THE TIME THE BUREAU OF HEALTH ASSUMED CHARGE TO DATE



At the end of the fiscal year 1907 the rate per thousand has dropped to 13.5, which shows in a most effective manner the advantage of having experienced medical officers in absolute charge of the sanitation of public institutions, especially when it is necessary to confine a large number of persons in a small space.

MEDICAL SCHOOL.

The movement toward the establishment of a Philippine medical school, which had its origin at the second annual meeting of the Philippine Islands Medical Association, in 1905, has met with complete success, and the school is now in actual operation under Government auspices. A Government building located on the Malecon Drive was set aside for this purpose, and the necessary alterations to adapt it for medical college purposes have been made. The city morgue will be removed to the building, so that any pathological material which may become available through such a source may be utilized for the advancement of science. Adequate light, airy lecture rooms have been provided, and excellent quarters are available for histological, pathological, bacteriological, and chemical laboratories. The first-year class commenced work on June 10 last and advanced classes were started during the first week in July. The course is five years. The curriculum is most complete and compares favorably with that of first-class colleges in the United States. The entrance and graduation requirements are in accordance with the rules and regulations of the Association of American Medical Colleges, which should insure a high standard of education.

The free beds maintained by the Government in St. Paul's Hospital, and in the new University Hospital which has recently been opened, are to be utilized by the faculty for the purpose of instruction. In addition, by the courtesy of the officials in charge of St. Paul's Hospital, the outpatient dispensary will also be available for clinical teaching, the medical supplies being furnished by the Bureau of Health for this purpose. San Lazaro Infectious Diseases Hospitals, Bilibid Hospital, the dispensaries of the Bureau of Health, and particularly the obstetrical service of the latter will also be utilized in order to give clinical instruction. The important subject of hygiene is to receive fuller consideration than is usually accorded to it in medical schools. The course will give especial attention to vital statistics, food supplies, municipal and house sanitation, the management of epidemic diseases, and maritime quarantine, and the whole will be made thoroughly practical by making full use of the excellent facilities which the Bureau of Health and the Quarantine Service afford for this purpose.

It is also very encouraging to report that the Santo Tomás Medical School, which has been in existence for a great number of years in the Philippines, has made extensive alterations in its course during the past

year; new teachers have been engaged; new buildings and equipment have been made available; so that, all in all, medical education in the Philippines has received a decided impetus during the past year.

SANITARY REGULATION OF DAIRIES AND DAIRY PRODUCTS.

The sanitary code of Manila makes ample provision for the sanitary maintenance of dairies and for the inspection and examination of dairy products. It prohibits persons suffering from contagious, infectious, or communicable diseases from working in dairies or assisting in the production, distribution, or storage of dairy products, and specifies that all tables, receptacles, and utensils used in the dairies shall be maintained, at all times, in a cleanly condition and free from all noxious matter. The surface of the interior walls and ceilings of the rooms of every building used for this purpose shall be lime-washed or otherwise covered, during the months of January and July of each year, and the woodwork frequently and thoroughly scrubbed. The storage of dairy products has also been a matter of special ordinance regulation.

It is now unlawful to bring into the city or to sell or to offer for sale any milk that is not fresh and wholesome, or that has been watered, adulterated, reduced, or changed, in any respect, by the addition of water or any other substance or by the removal of the cream; however, milk from which any part of the cream has been removed may be offered for sale or sold if the fact is publicly advertised on the cart or in the place of business of the vender, or made known to the purchaser at the time of the sale. Adulterated milk is held to include (a) milk containing less than 12 per cent of milk solids including fats; (b) milk containing more than 88 per cent of water or fluids; (c) milk containing less than 3 per cent of fats; (d) milk drawn from animals within fifteen days before or five days after parturition; (e) milk drawn from animals fed on any substance in a state of fermentation or putrefaction or any unwholesome food like digman; (f) milk drawn from cows in a diseased or unhealthy condition, or from cows kept in a crowded or unsuitable place; (g) milk from which any part of the cream has been removed; (h) milk to which has been added water or any foreign substance whatever.

In order further to protect the milk supply, it is provided that any person or persons owning or having in their possession, or being in charge of milch or dairy animals, the milk of which is to be sold in the city of Manila, shall cause such animals to be subjected to the tuberculin test, to determine the presence of tuberculosis prior to offering such milk for sale or use in the city of Manila.

The fact that milk is such a favored culture medium for most classes of bacteria makes it particularly liable to become the carrier of disease. Milk may also be dangerous because of the presence of disease-producing bacteria received from the animal or from the hands of the milker or

from the air of the stable or milk house or from contamination by the utensils in which it is collected and stored. Pure and wholesome milk can only be produced from healthy animals and even such milk may soon be rendered harmful through carelessness in collecting and storing. The precautions necessary for the production of pure and wholesome milk are numerous and exacting and include such measures as a selection of healthy milk-bearing animals, the strictest attention to their food and quarters, and the absolute cleanliness of the milker and of those who handle and market the milk, as well as the utmost cleanliness of all utensils employed in the dairy and storerooms.

A number of diseases may be conveyed through milk and some may be acquired directly from the animal, such as tuberculosis and inflammatory diseases caused by the *Streptococcus* and *Staphylococcus pyogenes*.

While the positive conveyance of tuberculosis from domestic animals to man is still disputed by some, especially that of bovine tuberculosis through the use of milk and meat of tubercular animals, because of slight morphologic and biologic differences between the bacillus as found in bovine and human tuberculosis, the trend of opinion to-day is toward the belief that milk of all tubercular animals is dangerous to public health. The food supply of milk-bearing animals has an important bearing on the character of the milk. When such animals are fed on distillery products it is not unusual to find a considerable portion of them suffering from an inflammatory condition of the milk ducts. It has been demonstrated that when milk from animals suffering from this inflammatory condition is given to children it produces gastro-intestinal disorders and is responsible for many deaths. The character of the milk is also influenced by the character of the water, by the surroundings, and by the ventilation. Of the diseases conveyed in milk, apart from those derived from the cows themselves, may be mentioned typhoid fever, cholera, dysentery, diphtheria, and scarlet fever, and, of course, tuberculosis. The milk becomes contaminated through polluted water, by means of flies, or by means of infected hands or clothing of the milkers and others who handle the milk. These diseases are usually classed as water-borne diseases. They are almost as frequently conveyed by milk as they are by water, due to the fact that when the dairy utensils are washed in polluted water, or the milk is diluted with water containing disease germs or has become contaminated by flies and other insects, every opportunity is afforded for spreading the infection. The only means of insuring safety is to use only the purest milk with which every sanitary precaution has been taken. It is almost impossible to attain this ideal condition in the Philippine Islands, so it is necessary to resort to sterilization.

In order to make it possible for the poorer classes to obtain a milk supply comparatively free from danger, it is necessary that the dairy business should be regulated by municipal ordinances. There is a direct

ratio between the character of the milk supply of any city and the infant mortality of that city. The Bureau of Health has begun a systematic campaign for purer milk. Under the present conditions only partial success is hoped for, but even this may mean a saving of hundreds of human lives. The following reports of samples examined at the instance of this Bureau will show a wide variation in the milk offered for sale in Manila: Of the first 213 samples examined at the laboratory only 131 were fairly good. The milk of the better class dealers seems to be satisfactory. The small venders who peddle milk about the streets are the principal offenders, but on account of their being apparently ignorant of the law, great leniency has been shown them. In many instances they frankly admit that they add water, cocoanut oil, rice flour, sugar, etc., to the milk in order to cheapen it and they seem much surprised that objection is made. This office has patiently undertaken a campaign of education by having the sanitary inspectors explain the law to the venders, for it is believed that the time has now arrived when the provisions of law should be rigidly enforced.

There is more carabao milk used in the Philippine Islands than either fresh cow's milk or goat's milk. Within the last few years there have been increased importations of cattle from Australia and a number of Australian dairies have been established. The price of Australian milk precludes its purchase by the poorer people, who still use carabao and goat milk.

Practically all the butter and cheese used in the Philippine Islands is imported. At the present time this is undoubtedly for the best sanitary interests of the people, who have not yet been taught the art of properly preparing these important articles of food.

The following circulars will give a good idea of the character of the pure-milk crusade in Manila. The first embodies the instructions of this Bureau as regards the manner of taking samples, and the second as to the warning notice, which is accompanied by a table showing the quality of standard milk:

APRIL 27, 1907.

District health officers in charge of health stations:

You are hereby directed to obtain a sample of milk of not less than 250 cubic centimeters from that sold by venders in your district, and forward the same to the laboratory, early in the morning, in order that it may be examined while fresh. One sample only should be collected each day until the milk offered for sale by all dealers in your district has been examined.

Care should be taken not to request a specimen from anyone who has already furnished a sample to the health officer of another district.

You will exhibit this circular as your authority for requesting a sample.

MAY 14, 1907.

District health officers in charge of health stations:

Inclosed herewith are copies of the results of the analyses of samples of milk which were recently collected by you, and from the same you will see that the quality of the milk sold by some of the dealers in your district is not what it

should be. For your information and guidance there is inclosed herewith a copy of an analysis of what sound dairy milk and sound carabao milk should be. Any marked departure from this standard, or alterations of the formula, should be brought to the immediate attention of the person selling the same, by letter, which will, in effect, state the following:

"I have the honor to state, for your information, that the sample of milk which was collected from you, 1907, has been analyzed, and the quality found unsatisfactory. You are hereby informed that within a short time another sample of milk will be collected from you, and if, upon analysis, the same is found to be unsatisfactory, you will be prosecuted in accordance with law."

After a letter, as indicated above, has been sent, a sample should be collected within a few days, and if the same is found unsatisfactory, the vender of the same should be prosecuted in accordance with the provisions of the Sanitary Code.

SOUND DAIRY MILK.

Reaction	Feebly acid.
Specific gravity	1.0297.
Bacteria	Always present.
Fats	Average 3.75.
Lactose	Average 4.42.
Albuminoids	Average 3.76.
Ash	Average 0.68.
Total solids	Average 12.61.
Water	Average 87.30.

CARABAO MILK.

Specific gravity	1.038
Fats	8.65
Sugar	4.19
Proteids	5.54
Ash.....	.85

DISAPPEARANCE OF PLAGUE.

The sanitary maps herewith show in a most effective manner the success which has attended the efforts of the Bureau of Health in eradicating plague from Manila.

In 1903 there were 160 cases; in 1904 there were 94 cases; in 1905 there were 41 cases; in 1906 there were 20 cases, while for 1907 there are no cases to report.

SCHOOL HYGIENE.

Inasmuch as so large a proportion of the ill health of the community is found in children of school age and since a large percentage of this ill health can be prevented, the question of school hygiene is of far-reaching importance. It involves the site and drainage facilities of the land, the character of the building, the extent of the cubic space and the floor space, and the relation of window space to the cubic space. It also takes in the question of light and ventilation, water supply, and sewage disposal. There has been more attention paid to the question of school hygiene in the Philippine Islands, especially in Manila, during the last

year than ever before. The Bureau of Health has made joint arrangement with the Bureau of Education to employ a medical inspector for the city schools. In provincial towns the local health officers make periodical visits to the schools and the district health officer inspects them when he is in the municipality.

The medical inspection of schools has reached its highest development in certain countries of Europe. In Hungary the position of school physician is one of considerable importance, and his duties are clearly defined by legislation. He is expected to examine and study the school building from a sanitary standpoint, to investigate the purity of the atmosphere in each room and to analyze it systematically from time to time. He is charged with inspecting the lighting, heating, and ventilation of the entire building, and the taking of such measures as may be necessary to prevent overcrowding. He is also required to analyze the drinking water used in the schools and to see that the pupils are furnished with proper seating facilities. With regard to the health of the pupils, it is the duty of the school physician to examine all new arrivals. The examination is of such a character as to afford a permanent record of the condition of each child. These systematic examinations are repeated at stated intervals during the year and a careful record kept of the progress of each pupil with regard to the uniform and healthy development of the body. Considerable progress in the matter of school hygiene has also been made in the United States. The medical department of the Philadelphia High School for Girls was established in 1893. Prior to this date the attendance of a physician was an emergency matter. Since the inauguration of the new department, the services of a graduate of the Women's Medical College of Philadelphia have been secured, and the hours of attendance fixed at from 9 o'clock in the morning until the close of the session in the afternoon. This physician occupies the position and performs the duties of sanitary adviser, medical adviser, and general physician, and the effect of her teaching upon the young ladies of this school has been very gratifying. The Bureau of Health has secured a lady physician, Dr. Anna D. Peck, a graduate of the University of California, for these duties in Manila, and while as yet the work is in a formative stage, results are beginning to show. Dr. Peck has not only instructed the pupils, but the teachers as well. She has lectured before institutes on sanitary subjects and has held many hygienic conferences on matters which young girls developing into womanhood should know.

The work is new, but a good beginning has been made, which in sanitary matters as well as other fields of endeavor is half the battle. To illustrate the importance of medical supervision of schools it is only necessary to recall the fact that of 5,876 cases of disease found in the public schools of Philadelphia by the medical inspectors during the eight

months of the school year 1900, 3,446 were contagious. Among these were 12 cases of diphtheria, 4 of scarlet fever, 112 of measles, 118 of mumps, 869 of contagious school diseases, 397 of conjunctivitis, 20 of whooping cough, 3 of typhoid fever, 2 of tuberculosis, and 8 of scabies, or itch. In Manila the results of the preliminary work done during the latter half of the session which ended in April were as follows:

Examination of the eyes:

Myopia—

Right eye	54
Left eye	52
Both eyes	287

Astigmatisms—

Right eye	97
Left eye	116
Both eyes	781

Defects of the cornea	11
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Conjunctivitis	61
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Epiphora	3
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Strabismus	5
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Examination of the ears:

Right ear defective	45
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Left ear defective	56
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Both defective	51
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Examination of the mouth and pharynx:

Tonsilitis	369
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Hoarseness	7
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Gingivitis	1
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Sore tongue	9
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Pharyngeal adenoids	1
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Examination of the skin:

Acne	132
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Pinta	80
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Hemorrhages:

Hemophthisis	32
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Epistaxis	1
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Deformities:

Scoliosis	114
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Hare lip	1
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Other	15
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Diseases:

Edema of feet	1
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Palpitation of the heart.....	26
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Nervousness	4
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Anemia	458
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Angina pectoris	1
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Rheumatism	1
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Chronic constipation	1
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Smallpox	380
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Tuberculosis	1
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Total number inspected 3,273

PERSONAL HYGIENE.

The climate of the country is often blamed for conditions directly due to other causes. Indiscretions in diet and neglect to be vaccinated have probably caused more trouble, especially among newcomers, than the climate. About the first thing a timid new arrival does is to go around and secure from as many sources as possible advice as to how he should live. As each installment of this advice is different from all the rest, he very soon finds the kind which suits him best. If he happens to be a man, somebody is sure to advise him that alcoholic stimulation is absolutely necessary. For some reason or another men will take this kind of advice when they will take no other, notwithstanding the fact that experience and common sense both dictate that if there is any place in the world where alcoholic liquors are not desirable it is in the Tropics. In order to place before such people advice upon which they could rely, the Bureau has published on cards, for distribution, the following health rules:

It is easier to maintain good health in the Tropics than in the United States, but in order to do so you should observe the following simple rules:

1. Be vaccinated to-day. The Bureau of Health will do it free of charge.
2. Never drink any water unless it has been either boiled or distilled, nor eat any raw vegetables. If you observe this rule carefully you will probably never contract dysentery, typhoid fever, cholera, or any other disease that originates in the intestines. Disregard of this rule is responsible for the return to the United States of over 50 per cent of the invalids who leave these Islands.
3. Fruit is wholesome, and may generally be eaten raw with impunity, provided it is of a kind that grows upon trees, well above the ground.
4. Avoid patent medicines. "Do not put drugs of which you know nothing into bodies of which you may know less."
5. Alcoholic stimulants are not necessary, the advice of "old resident" to the contrary notwithstanding.
6. Generally, disease-carrying mosquitoes fly only at night; therefore, always sleep under a good mosquito net.
7. Finally, observe the same hygienic rules that are applicable to temperate climates, including those of physical exercise.

SUPERVISION OF PILGRIMAGES.

One who is not familiar with the customs of oriental people with reference to religious pilgrimages can have no idea to what extent the ingenuity of the health authorities is taxed to provide for these great emergencies. These occur at many places throughout the Archipelago, but the largest is no doubt that which takes place at Antipolo, Rizal Province. This municipality has a normal population of 2,788, according to the latest census report. During the month of May, each year, thousands of people visit the pueblo to worship at the shrine of Nuestra Señora de la Paz y Buen Viaje (Our Lady of Peace and Good Voyage) and the daily population often reaches 10,000 or more. Many strange traditions adorn the history of this graven image, and many are those

who believe in its miraculous healing power. It has been estimated on reliable data that fully 250,000 people, from every station of Filipino life, visited Antipolo during April, May, and June of this year, and transformed for a short time the little village into a town with a large population and without proper facilities for caring for it. The pilgrims make great religious preparations for the event, but little thought is given to the sanitary necessities which so large an influx of people demand. There are serious phases of the situation which require active measures on the part of the health authorities. Every year it is necessary to install an emergency closet system and to send a soldier guard to prevent pollution of the drinking water. The regulation of the sale of food and drink also receives considerable attention, and on account of the great demand for food, it is sometimes very difficult to prevent the sale of that which has already spoiled. This year, both typhoid fever and dysentery appeared among the pilgrims, but since there was no spread, it is but natural for the sanitary authorities to believe that serious outbreaks were avoided by these prompt measures and perhaps thousands of lives saved.

SANITARY ORGANIZATION IN MANILA.

There are five sanitary districts in the city of Manila, conforming to the number and boundaries of the police districts. Each sanitary district is under the supervision of a district health officer and a force of inspectors, disinfectors, and sanitary police. Attached to each station are one or more municipal physicians and a municipal midwife to attend the poor. While these stations report to the Director of Health and are governed by the regulations of the central office, they carry on the details of their work in their own way. They are charged with the supervision of domiciliary sanitation, with the detection of nuisances, and with the removal of special causes of disease. The district health officers act as coroner's physicians, render service in emergency cases, and are physicians to the policemen and firemen of their district. They give advice on sanitary matters and supervise the food, milk, and water inspections. The municipal physician holds clinics and dispenses medicine.

TREATMENT OF OPIUM PATIENTS.

The Opium Act provides that a certain part of the revenue derived from the taxation imposed by it shall be devoted to the care of such patients as may desire to be cured of the habit. The Bureau of Internal Revenue sent out its agent to talk with the people who were known to be addicted to the use of the drug and many of them seemed anxious to apply for treatment. This office was notified that the number of patients would reach into the hundreds and was asked to make provisions for them; accordingly a contract was made with the San Juan de Dios

Hospital, in Manila, and with the Mission Hospital, in Iloilo, to take care of all who applied. So far only six patients have been admitted to San Juan de Dios Hospital and four to the Mission Hospital. Three of the six Manila patients were Americans; the four Iloilo patients were Filipinos. The following tabulated statement will show the result of the treatment:

Statement showing treatment for cure of opium habit at the San Juan de Dios and Mission Hospitals.

SAN JUAN DE DIOS HOSPITAL.

Race.	Sex.	Age.	Admitted.	Condition.	Discharged.
American.....	Male	39	June 26, 1906	Improved	Oct. 9, 1906
Filipino.....	do	43	July 3, 1906	Cured	July 12, 1906
Do.....	do	44	Aug. 18, 1906	Improved	Aug. 22, 1906
Do.....	do	41	Aug. 28, 1906	Cured	Sept. 11, 1906
American.....	do	26	Dec. 27, 1906		Dec. 27, 1906
Do.....	do	32	do		Do.

MISSION HOSPITAL.

Filipino.....	Female	30	Feb. 7, 1907	Escaped	Feb. 26, 1907
Do.....	do	39	Feb. 8, 1907		Feb. 12, 1907
Do.....	do	28		Improved	
Do.....	do	40	Mar. 2, 1907	Unimproved	

By the terms of the contract, they are kept in the hospital for only sixty days.

SANITATION IN PENAL SETTLEMENTS.

One of the most successful efforts that has engaged the attention of this Bureau during the year has been the freeing of Iwahig penal settlement, on the Island of Palawan, from malaria, and making the place safe for human habitation. This settlement was begun by the Spaniards years ago, but on account of the excessive death rate caused by pernicious malarial fever it was abandoned. When the question of relieving the overcrowded condition in Bilibid was raised and it became necessary to find a protected place to which the prisoners could be sent and from which they could not readily escape, attention was naturally turned again to this old settlement, which is favorably located and suitable in all respects except in the matter of health conditions. It was thought by the application of modern sanitary science the place could be made inhabitable and work was begun with this in view. The results during the first half year were very discouraging, but with the passage of the Reorganization Act, the sanitary control of the settlement was transferred to the Bureau of Health. It was obvious that radical measures were necessary, hence the first movement was the exclusion of all persons from the reservation who were not under the direct control of the superintendent. The next compulsory measure was the systematic proph-

ylactic administration of quinine in gramme doses, as advocated by Koch. The prisoners were lined up and each one was given the quinine and made to swallow it, so there could be no miscarriage of the plan. Each prisoner was made to sleep under a mosquito net. All marshy and damp places were drained. In a few months the disease had practically disappeared. There were still to be found malarial-bearing mosquitoes, but as there were no patients from whom they could obtain the infection and transfer it to those who did not have the disease, this species became no more dangerous than nonmalarial-bearing mosquitoes. The results of these measures were almost marvelous; in a very short time the number of sick in the hospital dropped from about 80 to 15.

As might be expected, the disease had become chronic in several cases and these necessitated particular attention in order that the mosquitoes might not become infected and convey the disease to well prisoners.

By the application of a few principles of sanitary science, what might have remained another "death trap" is now a well-ordered sanitary camp. This office would be unappreciative if it did not mention the great aid rendered, in bringing about this result, by Major White of the Constabulary, who is now the superintendent of the colony. His work was of the highest order and was at all times characterized by patience, directive genius, and a determination born of a desire to succeed. Great credit is also due to Dr. Florentino Ampil, the physician of the colony who has been in charge of the sick.

It is not customary to measure human lives by money standard, but if this were done the results in this instance would show that appropriations for health measures are from the first a profitable investment.

THE SANITARY CODE OF MANILA.

One of the first problems which confronted the military authorities upon entering Manila was that of sanitation. The provost-marshal-general appointed a committee to draft such sanitary ordinances as were needed to meet the existing conditions. The ordinances recommended by the committee were put into effect and so far as they went proved most satisfactory. They have been used as a basis for sanitary ordinances by cities in many parts of the Orient and even in America. In order to meet new conditions, the Bureau of Health recommended the passage of a sanitary code, not for the purpose of repealing the provost-marshal-general's ordinances, but more for the purpose of codifying them and making such changes as experience had shown to be necessary and in order that they might be printed in convenient form for general distribution so that every resident of Manila might know his rights and his obligations. The Commission, as a basis for the code, passed Act No. 1150, entitled "An act further defining the powers and

duties of the Bureau of Health for the Philippine Islands and of the Municipal Board of the city of Manila in connection with the preservation of the public health of that city and repealing certain provisions of law relative thereto." This act provided that, subject to the approval of the Secretary of the Interior, the Director of Health, acting in his capacity as the local health officer for the city of Manila, should draft and forward through the Secretary of the Interior to the Municipal Board, for enactment, health ordinances for the said city and that the Municipal Board should enact the ordinances so forwarded to it by the Director of Health, with the reservation that if the Municipal Board should consider any health ordinance, as drafted by the Director of Health, prejudicial to private interests or objectionable for other reasons, it should return such ordinance through the Secretary of the Interior to the Director of Health, together with such amendments as it might deem advisable, and that the Director of Health should consider the amendments suggested and make such changes in the ordinances as he deemed advisable and return the same to the Municipal Board. In the event the amendments agreed to by the Director of Health and approved by the Secretary of the Interior should not prove satisfactory to the Municipal Board, the latter was given the right to appeal to the Governor-General, whose decision was to be final. It will be seen that while the initiative lay with the Director of Health, ample machinery was provided by which the members of the Municipal Board, representing as they do the people, could be final arbiters. It required a long time to prepare the code and to revise it so as to eliminate the needlessly objectionable features and to make it as brief and concise as possible. The sanitary ordinances and regulations of other oriental cities were drawn upon and the conditions of these cities compared with those of Manila, so that such changes could be made as would adapt the text to the local necessities. Such of the provost-marshal-general's ordinances as had proved satisfactory and stood every test were incorporated; ideas were taken from the ordinances of the leading cities of America and Europe, and only in cases where no tested legislation covering the subjects could be found were new and untried provisions recommended. The code was finally presented to the Municipal Board and the people accorded a public hearing; protest after protest was submitted; features which had been in working order ever since American occupation and giving perfect satisfaction were declared oppressive, unnecessary, and revolutionary. Ideas which had been incorporated by the Filipinos themselves in local health regulations in many of the municipalities throughout the provinces were pronounced unjust and without precedent. Private interests affected by certain provisions of the code offered their protests. Every objection offered was carefully considered by the Board and such concessions were made as were deemed advisable, so that the code, as a finished product, is

rather different from the code as recommended by the Bureau of Health. However, it is a great step in advance and its enforcement will place Manila on a sanitary equality with the most advanced cities of the world. Provisions have been made for the cleansing, whitewashing, ventilation, and sanitary maintenance of buildings and premises; for the prevention of overcrowding; the regulation of plumbing, plumbing materials, house drainage, and the making of openings in the streets; the collection and disposal of garbage and refuse and the removal of night soil; also for the regulation of tenement houses, lodging houses, hotels, and other similar places; the sanitary supervision of bakeries, dairies, public laundries, barber shops, places where food and drink are manufactured or sold; and offensive trades and offensive and unwholesome businesses and occupations have been placed under ordinance restriction. The question of water supply has been carefully dealt with, and the necessary legal machinery provided for the filling in of lowlands. A chapter dealing with the prevention, reporting, and suppression of dangerous communicable diseases, divided into four parts, has been included. The first part takes up the general suppression and the prevention of such diseases; the second deals with buildings and premises infected with plague; the third is devoted to the suppression and prevention of cholera and other dangerous communicable diseases; and the fourth is devoted to leprosy.

The question of sanitation of the harbor of Manila, of rivers, esteros and canals, and other waterways, and of vessels, has been made the subject of a special chapter of the code, as has been also the destruction of mice, rats, insects, and other vermin. The question of the humane care of the unfortunate persons confined, detained, or kept in any private or public institution of the city of Manila because of sickness, deformity, imbecility, poverty, insanity, or other affliction is fully covered in a special chapter. The code also takes up the question of vital statistics and provides penalties for failure to report deaths and births. The subject of the disposal, transfer, and exhumation of the dead is also completely covered. Nuisances have been defined and the procedure for abating same carefully outlined. One of the most important chapters in the code is that relating to veterinary sanitation. The veterinary division of the Bureau of Health was transferred to the Bureau of Agriculture by the Reorganization Act and made the division of animal industry, but the Director of Health still retains such supervision over veterinary diseases as may be necessary to protect the public health.

The code was finally enacted October 20, 1906, and went into effect on the 1st of January, 1907. Its usefulness and effectiveness have been considerably lessened by the constant agitation against it led by certain Filipino physicians who object to the compulsory hospitalization of persons suffering from dangerous communicable diseases. The aim of the

Bureau of Health has been to administer its provisions with due leniency and with proper consideration for the local customs. Health officers can not please everybody and their official duties render it necessary for them to do many unpleasant things. The interests of the public are paramount to the interests of the individual, but this idea seems to be very difficult to impress upon the oriental mind, due perhaps to the fact that their religious, ethical, and political training has magnified the influence and power of the individual.

THE PHILIPPINE ISLANDS MEDICAL ASSOCIATION.

The fourth annual meeting of the Philippine Islands Medical Association convened in the library of the Bureau of Science, Manila, the 27th day of February, 1907, holding daily sessions four days, and was the best attended session which has yet been held. The Governor-General delivered the opening address before a large audience. A scientific programme had been arranged dealing almost altogether with original research work. The address of the president, Dr. Paul C. Freer, was entitled "A Consideration of the Modern Theories in Relation to Immunity." The closing words of this scholarly address are significant and worthy of preservation, and are as follows:

The problems to be encountered in immunization are difficult; they involve painstaking experimental work and close reasoning and thought, but, as I have endeavored to show, the modern views of chemistry and physics are all on the side of the worker in immunity; he has but to reason closely to untangle one more skein of the web, and his reward is great. In place of the constant fear of recurring serious epidemics of devastating diseases with their accompanying vast expenses, and in place of the constant vigilance necessary to prevent serious outbreaks of infectious diseases, the worker in immunity may possibly as a result of his studies in the future be able to render a community practically safe from all but negligible sporadic cases. We could then dispense with the rigors of quarantine and its interruption of commerce, or with the loss of life consequent upon the occurrence of epidemics. True, the prejudice against methods of immunization is as yet great; much more of a scientific nature needs to be done, much of a missionary character undertaken; but then not many years ago the very fact of the causation of disease by micro-organisms was the subject of the bitterest dispute and many members of the medical profession itself were skeptical as to the results which were to follow. However, the opposition of the profession has practically disappeared, that of the laity will of necessity follow, and our successors will find the way for future advance cleared for them by the pioneers of to-day.

Official delegates were present accredited to the government of Hongkong, His Imperial Japanese Majesty's Government, and His Imperial Chinese Majesty's Government. Dr. J. M. Atkinson, the honorable principal civil medical officer of Hongkong, attended as the official representative and addressed the association on the subject of plague and also upon hemorrhagic septicemia. Dr. Kannosuke Miyajima, delegate from His Imperial Japanese Majesty's Government, read an excellent paper based upon original research work on the subject of the

cultivation of bovine piroplasma. His address, which was published in the May number of the Journal of Science, has aroused considerable interest in the scientific world.

Dr. Sia Tien Pao, delegate from His Imperial Chinese Majesty's Government, addressed the association upon the medical situation in China. Dr. Sia is a graduate of an American medical college and one of the most active and enthusiastic workers in the great scientific awakening which is now going on in his country.

Papers presented by local physicians have not been mentioned, but were all of the highest order. It would not be an exaggeration to say that, measured in terms of original research and scientific and practical value, no more important programme has ever been presented in the Orient.

The influence of these gatherings has been a powerful stimulus to research work in the East, and Manila bids fair to become the medical center of the Orient. At the third annual meeting representatives came from Japan, Australia, China, and the United States. A special committee upon foreign guests has been appointed for the next annual meeting, and an increased number of countries are expected to send delegates. The delegates have come in an official capacity, having been invited by the executive branch of the Government. This arrangement fosters an official friendliness and stimulates a commendable spirit of rivalry between the scientific men of this part of the world.

PRISON SANITATION IN THE PROVINCES.

The Philippine Commission in passing Act No. 1487, abolishing provincial boards of health and substituting therefor district health officers, provided that it should be the duty of such health officers to prepare and recommend to the Director of Health regulations for maintaining in a sanitary condition all prisons, jails, theaters, schools, colleges, and other private and public institutions within their respective districts. The first duty enjoined by this Bureau upon district health officers, after the change from the old to the new system, was the preparation of sanitary regulations for the betterment of prisons and jails. These institutions, prior to the passage of the act referred to, had been entirely under the control of the local officials; the health officers could advise, but their authority and duty extended no further. Under the new law they have charge of prison sanitation and can see that their advice is followed. The results have been satisfactory, not only in their immediate relations but especially with regard to their influence in awakening public sentiment along this line.

Santa Cruz, the capital of Laguna Province, has recently completed a new jail, the first in the Philippine Islands built after plans suggested by a sanitary engineer. This office detailed Mr. J. D. Fauntleroy, who was until recently chief of the sanitary engineering division of this

Bureau, to go to Santa Cruz and assist the local officials with his advice and knowledge and the completed jail is a monument to sanitary ideas and sanitary progress.

Pangasinan Province will discard its old jail and build another on the same model as the Santa Cruz jail. Pasig, the capital of Rizal Province, has also fallen in line. This municipality is an important trading center for Rizal, Laguna, and Cavite Provinces. Its situation at the junction of the Mariquina and Pasig Rivers, and in the direct line of commerce of the three provinces named, makes it a commercial center for the smaller traders.

Through the zealous efforts of District Health Officer G. I. Cullen, the provincial jail at Catbalogan has become one of the most sanitary and best kept jails in the Islands. At the Tacloban, Leyte, jail a considerable number of improvements have been installed, but there is still room for much improvement.

To the outsider it may seem a waste of time, effort, and money to give the question of prison sanitation so much attention, but when it is remembered that provincial jails are also used to some extent for asylums and poorhouses and that heretofore they have been alarming factors in the perpetuation of beriberi and in the spread of tuberculosis, the wisdom of the movement becomes apparent. Beriberi, which is sometimes called "the jail disease" because it shows such a marked predilection for jails and prisons, has not been so prevalent in the provincial prisons as formerly, due to the improved methods in sanitation.

Jails and prisons are reformatory in character. The old idea that they were solely for the punishment of evildoers is rapidly disappearing. Prisoners can not be reformed under worse environments than those in which they lived during their active criminal careers, and since sanitation has a direct moral or ethical bearing on the formation of character, it is well worth all the time and attention that thinking people are giving to the subject.

BULLETINS.

Two complete bulletins, upon the subjects of tuberculosis (No. 5) and amœbic dysentery (No. 6), were prepared during the year and a sufficient number of copies printed in order to supply all those who might be interested in the subjects of which they treated. The text was prepared in such a manner that it would be suitable for teaching in schools, and arrangements have been made with the Director of Education to have the same thus taught throughout the Islands. A pamphlet was also prepared which is to be published by the Bureau of Internal Revenue under the provisions of the Opium Law, which sets forth in a popular manner the evil effects which follow the use of opium.

NEW HOSPITAL CONSTRUCTION.

During the year the efforts of the Bureau of Health in keeping before the proper officials the inadequacy of the present hospital facilities in Manila, and the great need for additional quarters for the care of the sick, have received concrete recognition in the appropriation bills of the Philippine Commission. One hundred thousand pesos were appropriated for a new hospital at Bilibid Prison; ₱20,000 for the installation of a proper sewer and toilet system; ₱20,000 for the installation of sanitary beds in the general prison; ₱55,000 for the construction and equipment of an addition to the present insane hospital at San Lazaro, to accommodate 250 additional patients; and ₱50,000 for the construction of a new hospital at Baguio, Benguet.

The question of a general hospital for the city of Manila, with plans and estimates, was brought before the Commission during December, but action was delayed until later, so that the matter of a general hospital for the city of Manila, which has been continuously recommended by the Bureau of Health, has not yet taken definite form. Modified plans and estimates prepared in consultation with a committee from the faculty of the Philippine Medical School will again come before the Commission early in August, and it is hoped that it will be possible to make an appropriation for this purpose, the necessity for which has already been so fully explained in previous reports.

CURATIVE CHOLERA SERA.

During the month of August, 1906, Dr. Denier, a bacteriologist of the Pasteur Institute, Saigon, arrived in Manila and requested permission to test the value of his cholera curative sera which he has used with such excellent results in cholera cases in Saigon. The matter was brought to the attention of the Commission and its consent to his treating patients at the San Lazaro Cholera Hospital obtained. After about one month's trial, during which Dr. Denier treated 17 patients with his sera, of whom 12 died, giving a mortality of 70.58, he expressed himself as not feeling very much encouraged over the results following the use of his treatment and returned to Saigon. The results in cholera cases treated in the hospital at the same time, by ordinary methods, showed about the same mortality, so that no improvement over the method in use at San Lazaro was shown.

ARMY BOARD OF TROPICAL DISEASES.

The board composed of Capt. Percy M. Ashburn, assistant surgeon, United States Army, and First Lieut. and Asst. Surg. Charles F. Craig, appointed by the Surgeon-General of the Army for the purpose of making a study of the tropical diseases prevailing in the

Philippines, has continued its labors and has reported a number of important results. Among other things it discovered a new filaria, which has been named *Filaria philippinensis*. This new filaria produces symptoms similar to *Filaria nocturna*. The board made an extensive investigation into the mode of transmission of dengue and reported that it was impossible to detect any organism in the blood, but that its transmission in all probability was due to the mosquito *Culex fatigans*, which is the principal night flyer in the Philippines. Their work was brought to a sudden close by the subsidence of the epidemic of dengue which prevailed at Fort William McKinley, where they were making their investigations.

The board also examined into the question of amœbæ, which seriously affects the Philippines, and are of the opinion that they have discovered a staining method by which the *Amœba coli* may be readily distinguished from the *Amœba dysenterica*.

The work of these gentlemen has been a considerable stimulus to other scientific workers in the Philippines, and the continuance of such a board can only result in marked good to the Islands.

COOLER WEATHER.

The Philippines, during the month of January, enjoyed unusually cool weather. The Weather Bureau has noted that January, 1907, was the coldest January and the coldest month since 1857. In the mountains of Benguet, near the Benguet Sanitarium, it has been stated that the thermometer actually registered 28° F. Ice of the thickness of one-fourth of an inch formed in exposed vessels. The temperature in Manila fell as low as 59° F. (15° centigrade).

GUARDING MANILA'S WATER SUPPLY.

During the time that cholera was present extra precautionary measures were necessary. Realizing that the salvation of Manila depended upon the protection of its water supply against contamination, the help of the military authorities was invoked and this important work placed in their charge. During the epidemic of last year Major-General Wood, commanding the Army in the Philippines, at the request of the Governor-General, dispatched on June 28, 1906, a detachment of troops to protect the watershed. In order to expedite the enforcement procedures, the Commission passed an act conferring on Army officers the prerogatives of peace officers, and empowering them to arrest and try those who violated sanitary ordinances and regulations. The Municipal Board of the city of Manila also passed, in advance, as an emergency ordinance, the chapter on water from the then pending Sanitary Code, thus providing a method by which offenders might be brought before the courts of Manila for trial when it was deemed advisable to take that course.

The military authorities handled the situation with remarkable energy, tact, and success, and rendered invaluable aid at a critical time, and due credit should be given them for the part which they have taken in the sanitation of the Philippine Islands.

DRINKING WATER.

The water used in the city of Manila belongs to three classes: Hydrant water, used by the natives generally; distilled water, used generally by the employees of the Government, both military and civil; and bottled waters, used by the upper class of natives and richer Americans. The Insular Cold Storage and Ice Plant delivers distilled water to all employees of the Civil Government daily at a charge of 6 centavos, Philippine currency, per gallon. The military government furnishes its employees distilled water free of charge. A comparatively few use boiled water.

This office has been frequently called upon to investigate the cause of dysentery occurring in families using distilled or other sterile water, and in many instances there has been no difficulty in tracing it to careless handling of the ice, which is usually placed upon the sidewalk or upon the floor and from which place it is taken by the muchacho, at his leisure, and placed without washing in the water cooler. This has been especially true of the Government offices and explains why so many Government water coolers are found to contain amœbæ. To overcome this source of danger, the Director of Health has devised and is ready to furnish drawings for a water cooler of simple construction, with a compartment for the ice and another fitted with tubes for the water, which arrangement prevents contamination of the water by the hands of the servants. There is no patent on the invention and it is not a "discovery;" it is a simple common-sense device for protecting drinking water.

DISPENSARY WORK.

The Bureau of Health conducts seven free clinics in the city of Manila, one at each of the five health stations, one at the San Lazaro Hospital, and one at the Civil Hospital. It also maintains three public dispensaries—the general dispensary at the main office, one at the San Lazaro Hospital, and one at the Civil Hospital.

Station clinics are conducted every morning by the municipal physicians, and medicines are either supplied from the stock kept on hand or through the central dispensary.

A limited number of patients suffering from noncontagious diseases, who are unable to pay, are received into the ward of the Civil Hospital as emergency patients. The city of Manila has a contract for fifty free beds in the San Juan de Dios Hospital and fifty free beds in St. Paul's Hospital, and the Insular Government has recently made provision for

forty-five additional beds at St. Paul's Hospital. All cases of infectious diseases are taken care of free of charge in the infectious diseases departments of the San Lazaro Hospitals. The insane are sent to the San Lazaro Insane Hospital or to the Hospicio de San Jose, with whom the city of Manila has a contract. In addition to these clinical facilities for the poor, the Bureau of Health supplies medicines to St. Luke's Dispensary, connected with the University Hospital, to the Methodist Hospital, to credited missionaries, and to public-school teachers for use among the indigent poor. In such provinces where there are neither drug stores nor private physicians, the Commission has adopted a plan which it is hoped will relieve the most urgent necessities of the situation. This plan, which has already been put into operation in the Province of Nueva Ecija, is as follows:

The sum of ₱500 was appropriated for the purchase of medical supplies to be handled by the district health officer. These supplies are sold to persons who are able to pay, and distributed free to the indigent poor. The margin of profit on the sales is very small and the money taken in is reinvested so as to keep up the stock, the object being to make the provincial drug store self-sustaining, and at the same time to conduct it without profit. There is no city in the world of the size of Manila that has better free dispensary service for the poor—a service in which patients are treated with as much consideration as if they were the richest people in the country. The statistical tables published in another part of this report will show the number of patients who have availed themselves of the privileges offered.

The dispensary work is gradually being further extended in the provinces. District health officers have opened small dispensaries at many of the provincial capitals where poor persons may receive treatment free of charge. Many missionaries are extending medical aid in the different provinces in which they are stationed, and the Bureau of Health furnishes them medicines for the indigent poor, free of charge, in all cases where satisfactory references are given. In this way more distress is being relieved from year to year, throughout the Islands.

WATER AND WATER SUPPLY.

Water supply may be conveniently divided into three classes—surface, underground, and cistern. Surface supplies are drawn from streams, lakes, or artificial reservoirs; underground water from wells or other openings into the ground; and cistern water is caught during rains and, if it were not for the collection of atmospheric dust and bacteria in its downward passage and contamination by cistern wells, would be as pure water as it is possible to obtain. After it once comes in contact with the earth, it is, strictly speaking, surface water and as such is subject to all of its impurities. In running over and through the earth it takes up mineral salts and organic matter, gathering most of the former in

passing through and most of the latter in passing over the ground. Every part of the crust of the earth is a great filter which removes all of the suspended matter and also removes or transforms most of the organic matter of the water as it passes over the earth's surface, provided the distance traveled is great enough. Underground supplies therefore, unless taken at a depth near the surface or from localities which are subject to special pollution, are generally more free from organic impurities and bacteria of all sorts than are surface supplies, while the latter usually contain smaller quantities of mineral salts. Deep wells in some localities yield water so heavily charged with mineral matter or with gases as to render it unfit for domestic use. Even the water from comparatively shallow wells may be quite hard, due to the excess of mineral matter. Water collected from cultivated fields is apt to contain much organic matter and clay, silt, or sand in addition. Water from forests, meadows, or swamps usually contains much vegetable organic matter.

The most important and the most dangerous source of pollution is sewage. This affects surface supplies far more extensively than underground supplies. Public and private wells are often contaminated by near-by privies or cesspools. Mr. M. N. Baker, an able engineer, writing on the subject has well said:

In matters of water supply, above all things else, even the appearance of evil should be shunned; so the first principle of securing potable water is to avoid all supplies known or liable to be polluted and to choose those above suspicion. Where polluted water can not be avoided every effort should be made to stop the pollution, and if this is not sufficient, then the water must be purified.

In case a waterworks plant is being established, or a new source of supply added, the first object should be to select water of the highest standard of purity. The qualities to be sought are so important that they may be mentioned again: Freedom from disease germs, substances that derange the human system, color, odor, taste, and sediment. The first is of the most importance by far.

The ideal plan would be never to choose a water supply into which sewage, however small the quantity, is discharged, and never to allow such discharges into any existing source. It is difficult to carry out this ideal in any case and the magnitude of the task increases with the size of the supply. We are, therefore, sometimes forced to consider whether some small or remote source of sewage pollution may not be tolerated in order to render an otherwise satisfactory supply available, especially if all others worthy of consideration are much more costly. If the pollution be small, some means of preventing it may often be found; if it is both remote and small the danger is correspondingly lessened. But where shall the limit be placed? Both individuals and communities are loath to incur trouble or expense beyond a certain point in order to avoid remote chances of danger or death. Each case has to be, and should be, settled on its own merits. Regret it though we may, it sometimes becomes necessary to take some risks, lest the financial burden due to avoiding them be greater than can be borne. There is a limit by law, in some places, and by local public opinion everywhere, beyond which tax rates and bonded debts can not pass. It is less of a burden on one's conscience and far safer for all concerned to urge that no sewage pollution should

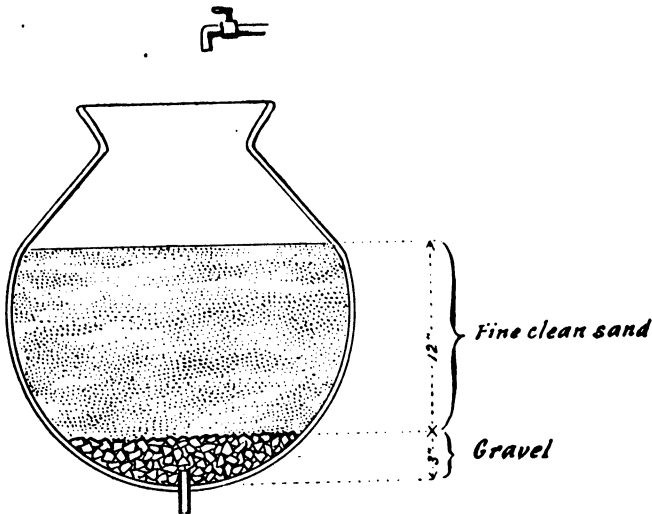
be tolerated than to name any small percentage of quantity in relation to the total amount of water or any distance at which the admission of sewage could be ignored.

Fortunately there is always some avenue of escape from death-dealing water. Either a natural supply may be found, pollution prevented by legal measures, purification adopted, or, as a last resort, a dual supply may be provided, pure water in very limited quantities being furnished for drinking and cooking.

The city of Manila has an ordinance regulation for the protection of its water supply. In times of cholera epidemics this law has been frequently invoked, and in some cases enforced by military authority. Laws for the protection of water supplies are of little value unless backed by the force of public sentiment. The questions involved are often more than local in character. They are sometimes interstate and international in their scope. The prevention of water pollution is a broader question than the preservation of the water supply. Waters not used as sources of supply must be protected from such pollutions as will give rise to offensive odors. It is evident that if all population were excluded from drainage areas there could be no sewage pollution. The attainment of this ideal condition is possible only when the municipality or private company owns or controls the entire drainage area. Birmingham, Liverpool, and Manchester and many other cities in England have bought up all the land in the drainage areas of their water supply. The question has not been given the attention it deserves in the United States and its possessions. Manila has just extended its intake beyond the limits of population and the entire new watershed is under the control of the Government, and arrangements have already been made to guard against its being inhabited. The present watershed is inhabited by more than 10,000 people, on which account the city water is always a source of danger to the health of Manila, which becomes a serious menace when cholera makes its appearance, frequently rendering it necessary to guard the watershed with United States troops to prevent its pollution. When the new system is completed the necessity for a patrol will no longer exist because the intake is beyond the limits of populated territory. The engineer in charge of this work reports that the new water supply will probably be ready for use within a year.

The conditions are more serious in the provinces, where the danger of drinking polluted water is not recognized. The Bureau of Health has endeavored to help matters by urging upon the people the advantage of boiling, distilling, and filtering the water. The masses will not use boiled or distilled water, but have no objection to water which has been filtered. As mechanical filters were entirely out of the question, this Bureau has devised a simple house filter consisting of an ordinary native banga (a jar made of clay), of the size desired, into which is placed two or three inches of gravel, and on top of this about a foot of clean river sand. The filter should be placed on a stand and under the

faucet and a tap inserted in an opening in the lower part of the banga to allow the water to flow out after it is filtered through the two strata of different densities. It is not claimed that this process removes all the danger from the water, but it greatly lessens the number of organisms. It is advisable to pass the water through another filter after it has passed through the preliminary filter. These filters are within the reach of all, costing only a few centavos. They are easily cleaned. Bangas to the Filipino people are what water coolers and water buckets are to the Americans. The accompanying sketch will show the simplicity of the above-described filter:



It was formerly supposed that filtration was purely a mechanical process. It was believed that a mass of sand perfectly inert in itself would in no matter effect a chemical change in the contents of the water, but it is now known that water is purified while passing through a filter by the agency of nitrifying bacteria, in the same manner as when passing through nature's great filter, the earth. These nitrifying bacteria take the organic matter and transform it into nitrates. After a filter has been in use some time a thin layer of sticky matter forms over its surface and thin films of the same substance cover every minute particle of the filtering material, especially in the upper layers. It is these layers and films that retain the bacteria. Here the organisms in the water, pathogenic and nonpathogenic, are retained and here most of them perish only a few inches from the surface. Those that penetrate deeper are liable to be caught in the same manner and in addition they suffer through the lack of food, since the organic matter on which they depend for a living has been changed before it reaches them. Thus it will be seen that it is not necessary to change the filter's contents as often as

might be supposed, yet it is also enjoined that filters should be kept clean. What was once considered a mere straining is now positively known to possess mechanical and antibacteriological properties as well. There are many disease germs which do not multiply outside of the human body and the problem is, after they have once passed out, to prevent their reëntrance into their natural habitat. This is the principal object of all methods of water purification.

It is quite a simple matter to plan the protection of the water supply of Manila, but when the problem is attacked in the provinces it is quite another story. In most municipalities, water-closets and privy vaults are practically unknown, the excreta being removed from the ground by pigs. If these pigs could be taught to do their duty, and nothing else but their duty, all would go well, but they wade into the rivers and into the streams, not so much to wash their dirty feet and noses as for the purpose of seeking other fields of filth to conquer. In the season of rains pollution is also carried into streams by the surface water which is discharged into them. To establish a system of water-works in each municipality throughout the Philippine Islands is impracticable and could not be seriously considered, hence the Bureau of Health was confronted with the necessity of devising other means to protect the public. After due consideration it was decided that artesian wells would come nearer affording the desired protection than any other available agency known. Great undertakings always move slowly, and no one who is familiar with the subject, knowing the financial conditions of the country, would question for a single moment the fact that to supply the six hundred municipalities of the Philippine Islands with a sufficient number of artesian wells to accommodate the inhabitants is a stupendous undertaking, yet a start has already been made. Wells are in operation in the Provinces of Pampanga, Bulacan, Cavite, and Cebu. In the Province of Pampanga very satisfactory wells have been obtained at depths that vary from 100 to 135 feet, and which flow at the rate of 20 to 50 liters per minute. Other wells in the same province, with the surface at about the same sea level but bored to a depth of from 180 to 200 feet, have a flow of from 75 to 114 liters per minute, and this amount is not much lessened in the dry season, while the amount from the more shallow wells is greatly reduced during this time.

The mortality in some of the towns which use artesian water exclusively has already dropped 20 per thousand over corresponding periods last year.

The Commission in some recent legislation (Act No. 1662) has made it possible for many more municipalities to avail themselves of loans from the Insular Government for the purpose of installing artesian wells, so that in the near future still further reduction in the mortality can reasonably be expected.

LEGISLATION.

During the year several laws have been enacted for the regulation of questions which concern the health of the people and the interests of the Bureau of Health. One of the most important local measures from a sanitary standpoint is Act No. 1526, entitled "An Act for the prevention and suppression of Asiatic cholera," passed August 17, 1906. This act was passed to do away with the dangerous practice, confined almost entirely to Chinese market gardeners, of sprinkling growing garden produce with a mixture of urine, feces, and water which serves the double purpose of fertilizing and irrigating the soil, and satisfies, at the same time, the Celestial's idea of economy. This filthy method, so common in Chinese farming, is a dangerous procedure in the Philippines, and has been the means of disseminating cholera and dysentery. It is now expressly forbidden for any farmer, market gardener, or other person to use any human excreta, excrement, dejecta, or the contents of any water or earth closet, privy, vault, cesspool, latrine, pail, or other receptacle for human feces or urine as a fertilizer on any land on which is grown any article or product intended for food or human consumption, or to allow any human excrement, excreta, or dejecta to be sprinkled on or applied in any manner, or for any purpose, to any crop, product, or vegetation grown on said land.

Another law which is of considerable importance to small municipalities is Act No. 1530, amending the Municipal Code, by giving to municipalities the right to charge a fee of not more than 50 centavos for burial permits and permits for the removal of the bodies of deceased persons. The money derived from this source is covered into municipal treasuries and becomes available for local expenses, the item of sanitation receiving its share.

Act No. 1580, entitled "An act making appropriation for certain public works, permanent improvements, and other purposes of the Insular Government," while not remedial legislation, was of so much importance in the administrative operations of the Bureau of Health that it merits special mention. This act carried several sanitary appropriations; ₱10,000 for the extension of the water system at the Culion leper colony; ₱20,000 for the construction of a sewer system in Bilibid Prison; ₱20,000 for sanitary beds for the inmates of the said prison, and ₱55,000 for the construction of buildings and their permanent equipment, in the San Lazaro Hospital grounds in Manila, for the care of 250 additional insane persons.

Another law directly affecting the work of this Bureau is Act No. 1613, entitled "An act amending Act No. 308 and providing for the establishment of municipal boards of health and fixing their powers and duties." This act provides that with the approval of the respective municipal councils and the approval of the Director of Health, district

health officers may organize any two or more neighboring municipalities into a municipal health district, and the municipalities composing the district may employ jointly a president of the municipal health district who shall act as president of the municipal board of health of each municipality comprising the said municipal health district and shall receive such compensation as may be appropriated by the respective municipal councils and approved by the Director of Health.

This act also provides for traveling expenses of municipal health officers, a provision which has never been made before and a lack of which has caused considerable embarrassment to the progress of sanitary work in the provinces. This new law will not only enable the Bureau of Health gradually to extend its operations, but will insure a more efficient service. Small municipalities that could not appropriate sufficient salary to employ the services of a physician may, by combining to form a municipal health district, make available such service.

Other legislation which indirectly concerns the Bureau of Health and the cause it represents is comprised in Acts Nos. 1632 and 1651. The former provides that any graduate of the Philippine Medical School established by Act No. 1415 may, upon graduation, register his diploma with the board of medical examiners without examination, and also established for each province one free scholarship in said school, to be awarded on competitive examination to graduates of public high schools. These scholarships are awarded on condition that each student who shall graduate from the medical school with the degree of doctor of medicine, unless he shall receive appointment under the Government of the Philippine Islands or one of its branches, shall return to his province and practice medicine and surgery therein for a period at least equal to the time of his scholarship tuition. There has always been a lack of physicians in the provinces, especially in the remote municipalities. This does not mean that there are golden opportunities in the Philippine Islands awaiting American physicians, but that intelligent, well-educated native physicians are in demand—men who know the customs of the country and understand the language of the people and who will practice in the provinces. To supply this demand is the object of the new medical school and of the free scholarships which have been authorized.

Act No. 1651 authorizes that any graduate of a school of medicine or school of pharmacy in the Philippine Islands who shall receive therefrom the degree of doctor of medicine or licentiate of pharmacy shall, upon presenting his diploma from said school to the board of medical examiners or to the board of pharmaceutical examiners, as the case may be, be entitled to receive a certificate of registration without examination, provided such school of medicine or pharmacy shall have been duly incorporated, and shall also, previous to the matriculation of said

graduate in such school of medicine or pharmacy, as the case may be, have been empowered in writing by the Secretary of Public Instruction, under such terms and conditions as he may prescribe, to grant diplomas and confer degrees in medicine and pharmacy pursuant to section 168 of said Act No. 1459; and provided further, that such school or schools shall, in the judgment of the board of control of the Philippine Medical School, have brought its instruction in medicine and surgery or pharmacy to the standards prescribed for obtaining the degree of doctor of medicine in said Philippine Medical School, or to the standards of instruction fixed by said board of control for granting the degree of licentiate of pharmacy, as the case may be.

The Pure Food and Drugs Law (Act No. 1655) has been discussed in another part of this report. The Philippine act is almost a copy of the American law enacted by Congress on June 30, 1906.

The Pure Food and Drugs Law is certainly one of the most needed, most righteous, and most important laws that was ever enacted in any country for any purpose, and it is the result of an awakening of the public conscience, which has for a long time apparently been sleeping on its rights and privileges.

Another appropriation act that deserves special mention is Act No. 1662, which carries an item of ₱50,000 for the construction of a hospital building at Baguio, Benguet, in accordance with plans and estimates prepared by the Consulting Architect and approved by the Director of Health and the Secretary of the Interior, at a cost not to exceed ₱50,000.

This act, under the head of "Artesian wells," created a permanent reimbursable appropriation to the credit of which has been deposited the sum of ₱37,000, appropriated by the act. All receipts which may accrue from Insular Bureaus, provincial and municipal governments, and other sources on account of services rendered and supplies furnished in sinking artesian wells and, when required, equipping said wells with the pumping machinery, storage tanks, etc., to provide potable water or fire protection, or both, when demanded by the public interest, shall be deposited to the credit of this appropriation. It is provided that the rates charged for the work done by the Bureau of Public Works shall not exceed such as may be necessary to reimburse the appropriation on account of all expenses including a surcharge to cover the cost of unsuccessful projects for which no charge is to be made.

The artesian-well system has been urged by this Bureau as a health measure and this substantial recognition of its merits practically insures the success of the movement. The question in its sanitary aspects is discussed under another heading.

The Commission in other appropriation acts has dealt as generously with the Bureau of Health as the status of the financial condition of the country would permit.

The principal sanitary legislation pending before the Commission is a bill for an act providing for the apprehension, detention, segregation, and treatment of lepers in the Philippine Islands. Heretofore the leper question has been handled under the general powers of the Bureau of Health as conferred by Act No. 157, but in order that the status of these unfortunate people might be more clearly defined, it was deemed advisable to present this new act, which pertains more especially to transferring of lepers from their homes to the Culion leper colony. A movement of this kind, as might be expected, always engenders a certain amount of opposition which can be best met by direct legislation.

A bill for an act regulating the legal status of the insane has also been prepared.

POISONOUS FISH.

The Philippine Islands are bountifully supplied with fish, nearly all varieties of which are wholesome, but now and then reports reach this office of cases of fish poisoning which closely resemble Asiatic cholera, and as this disease has been more or less prevalent from 1902 until the present year, the opportunity was not favorable enough to justify the time and trouble of a scientific investigation of the subject of fish poisons, so that the matter was left open until the arrival of Mr. Seal, of the United States Fish Commission, who was kind enough to cooperate with this Bureau in this important investigation. The following are the names of the poisonous varieties found:

Scientific name.	Native name.	English name.
<i>Spheroides lunaries</i>	Botiti	Puffer.
<i>Spheroides ocellatus</i>	do	Do.
<i>Alutera monoceros</i>	Pacol	File fish.
<i>Tetrodon immaculatus</i>	Boteteng saguing	Tetrodon.
<i>Zonogobius semifasciatus</i> ¹	Biat	Goby.
<i>Triacanthus brevirostris</i>	Saltan	Hornfish.

¹ This species is the only poisonous one. There are many species of good biat sold in the market.

These fish are actively poisonous. The natives, especially if weak and diseased, after eating of them are taken with gradually increasing vomiting, diarrhœa, muscular weakness, and cold extremities followed by profound prostration and coma, which unless actively treated terminate fatally.

The Bureau of Health immediately prohibited the sale of these poisonous varieties of fish, since which time the number of the cholera-form cases has greatly diminished.

These fish were known among the fishermen and by many natives to be poisonous; but the commercial instinct was so strong as to induce

them to mix the poisonous fish with the wholesome varieties and thus find a market for what otherwise would be an unprofitable product.

As the ratio of the severity of the symptoms is directly proportioned to the amount of poison ingested and the sale of fish so enormous, it was very easy by this process of "mixing" to get rid of hundreds of poisonous fish every day without producing fatalities.

This country is signally blessed in its natural resources. Nature has abundantly supplied it with food, but it remains for those intrusted with sanitary matters to maintain a watchful care over these bountiful supplies and to keep them pure and wholesome in order to protect the public health.

PROVINCIAL MARKETS.

One of the principal sources of municipal revenue is the local market, and until the passage of the District Health Officers' Act the question of sanitation had never been associated with this institution. Markets were places where people could go and sell whatever they pleased and in any manner they pleased so long as they paid their licenses. The provincial supervisor was the provincial sanitary inspector, but the multiplicity of duties claiming his attention prevented his visiting the remote municipalities oftener than once a year. It was an easy matter to make a show of cleanliness when he was there and to lapse into the old habits when he was gone. Under the new system, the sanitary conditions are required to be reported on by the local health officer. These reports are verified as frequently as possible by visits from the district health officer. The improvement has been marked and the sanitary concept is steadily gaining ground. They are required to keep their perishable foodstuffs covered so as to protect them from the flies which they have learned to recognize as carriers of disease germs. These little points in sanitation are being continually impressed upon the people, perhaps to the point of exaggeration, but these concepts, however imperfectly grasped, are far superior to the old opinions of disease being due to evil-minded persons, to the visits of black dogs during the hours of midnight, and to bad air in the different organs of the body. Even yet an occasional cause of death will be registered as air on the brain, or some other impossible cause equally ridiculous. The word "infección" is now as frequently seen on death certificates as was formerly the word "calentura" (fever). In other words, the fact of the germ origin of disease is gradually becoming known. In all of its writings and publications which are sent to the provinces this office avoids the term "germ theory" for the reason that there no longer can be a "germ theory," now that the germ origin of disease is a recognized potent fact no longer to be disputed.

AMBULANCE SERVICE.

The reform in the ambulance service spoken of in the last year's report has been proved a success in a financial way as well as in convenience. The service has gained in promptness, although the reckless speed has been reduced to the limits of safety and common sense, the apparent loss being compensated for in the system of quick responses which has been inaugurated. This speed question has been subject to much discussion in the United States and artists have caricatured it in the comic papers and in some of the magazines. The effect has been to arouse the public interest to the danger of this form of reckless driving, which under the pretext of rescuing the wounded, criminally disregarded the safety of all whose business brought them in the way.

The department of sanitation and transportation under which the service is conducted has made several improvements during the year; the old Civil Hospital ambulance has been repaired and modernized, and all the ambulances bought from the Army have been fitted with rubber tires so that patients can be removed with ease and comfort. The credit of these improvements is due to Mr. Mehan, the chief of the department of sanitation and transportation of the municipal government.

MATERNITY HOSPITAL.

The Methodist Church has completed arrangements for the establishment of a maternity hospital in Tondo. It already has a dispensary in operation and a physician and trained nurse at work among the Filipinos.

CARE OF THE HOMELESS.

The Bureau of Health maintains, by contract, a number of aged and homeless people. There is not an almshouse or a poorhouse in the entire Philippine Islands. The Spanish Government and the Roman Church taught the people that it was a sacred duty to take care of their relatives and friends, especially in old age. These worthy teachings have had a profound influence in the transformation of the native character and it is hoped that the Filipino people may never be educated out of these beautiful ideas.

The average number of indigents maintained at the Hospicio de San Jose, at Government expense, are 89 male insane, 104 female insane, 10 infirm, aged males, 40 infirm, aged females, 41 young males, 98 young females; or a total of 382.

MARKETS IN MANILA.

The entire management of the markets in Manila has heretofore been under the department of assessments and collections, but will shortly be transferred to the department of sanitation and transportation. On November 1, 1906, the work of market sanitation was transferred to the latter department, and two markets selected for trial measures.

Divisoria market, in Tondo, one of the largest markets in Manila, in fact one of the largest in the Orient, had for a long time been in an unsatisfactory sanitary condition. Chinese venders, with commendable appreciation of the value of space, had built additions to their stalls until the market presented the appearance of a number of boxes piled one on the other. Under each stall table was a box which had long ceased to serve any purpose except to hide filth and afford a breeding place for vermin. The Quinta market, in Quiapo, another large market, while not quite so filthy as the Divisoria market, was also in a very unsatisfactory condition when turned over to the department of sanitation and transportation for trial treatment. The new management began its campaign of reform by causing to be removed from the market all structures and fixtures which in any way served other than legitimate market purposes. Cages and platforms erected were removed so as to admit air and light. The drawers and boxes fastened under the tables were taken out and every structure or contrivance capable of hiding dirt was removed. At the time the venders went on a strike on account of a change in the rent for space, an excellent opportunity was afforded to carry on the sanitary work inaugurated, and by the time they returned the markets had undergone a complete transformation.

Tables which can be tilted have been installed so that the entire markets may now be flushed with ease with a fire hose. Considerable improvement has been made in the design for fish tables so that this business can be handled in a much more cleanly manner. One very undesirable feature, however, yet remains, and that is the practice of renting space in a building which was expressly designed for the sale of perishable products to dry goods merchants, shoe stores, etc.

The chief of the department of sanitation and transportation modestly refers to the markets in his report to the Municipal Board in the following language:

The sanitation of various markets was assigned to this department on November 1, 1906. Believing that the food supply of the inhabitants of a tropical city is one of the greatest sources of disease, every effort was made by this department to eliminate, as far as possible, without prejudicing greatly the interests of the market venders, any insanitary habits or customs which were found to exist.

The improvement in the markets is very gratifying to this Bureau and removes a cause of danger and worry. Fresh air, sunlight, water, and vigilance will accomplish wonders in markets as well as elsewhere.

BUREAU ORGANIZATION VS. BOARD ORGANIZATION.

There is now on hand the experience and records of one complete year of Bureau organization, and it is possible to compare the results with those of board organization. A careful study of the financial statistics will show that more has been accomplished during the past year for a given amount of money spent than at any time heretofore in the history of the health department of the Government. It is believed that by doing away with the obstacles caused by unnecessary loss of time due to having a board to convene, lack of quorums, inability to act quickly, the impossibility to take advantage promptly of opportunities that arise, more than offset the greater representation which is given by board deliberations. As a matter of fact, there is probably more consultation with the different divisions of the Bureau at the present time than there was at any time during the existence of the board of health. By consultation with the persons most interested and affected by any contemplated action it gives greater representation than heretofore has been the case, and, finally, it is a much simpler matter for those who are in authority quickly to fix the blame for any shortcoming in the administration of the Bureau.

CEMETERIES.

Probably no duty which the Director of Health has been called upon to perform has been more trying and exacting than the question of attempting to carry out the provisions of Act No. 1458 with regard to the regulation of cemeteries throughout the Islands. It requires an amount of time and attention which is out of all proportion to the good which can be reasonably hoped for. The questions which this office has been called upon to decide have not been so much questions of sanitation as they were differences of opinion which in all probability had nothing to do with cemeteries, but were expressions of animosity injected into reports of cemeteries with the hope that some action would be taken by this office which would be to the disadvantage of the opposing faction. On account of the foregoing the greatest difficulty has been experienced in obtaining a statement of fact in each case and the difficulty of arriving at a just decision correspondingly increased. Naturally no matter which way the decision went in a given case one or the other faction was disgruntled. This is deeply regretted because it makes many enemies to the cause of sanitation and many projects which are of greater importance from a health standpoint than cemeteries will be defeated by the enemies thus made.

The law requires that this office shall not only approve all new cemeteries before they can be legally opened, but that all old cemeteries must be approved before they can legally continue in use as burial grounds. In order that the work might be accomplished quickly and as systematically as possible, cemeteries were taken up by provinces and district health officers were instructed to visit every cemetery in their district and furnish answers to the following questions:

PROPOSED NEW CEMETERY.

NOTE.—Submit a sketch or plan of the proposed site, showing its location with reference to near-by towns and barrios, and also indicate thereon such information as may be required by the following questions:

- Date of inspection
- Barrio of, Town of, Province of
1. State the name of person, persons, corporation, church, etc., desiring to establish the cemetery.....
 2. What are the measurements and area of the proposed site?.....
 3. What is the elevation of the proposed site with reference to surrounding country?
 4. What is the character of the soil? (Sandy, clay, gravel, or mixed)
 5. At what depth is water encountered when graves are dug? Dry season.....
.....; rainy season
 6. Is site covered with water during the rainy season?.....
 7. What is the direction of the drainage from the site?.....
 8. Does the drainage from the site enter any river, stream, spring, well, or other source of water supply?.....
 9. Does the drainage from the site pass through any town or barrio?.....
 10. State whether it is the intention to place an inclosure around this cemetery, and the character of the same; or, the character and condition of the inclosure if one already exists.....
 11. About what number of the population will use this cemetery?.....
 12. What has been the average death rate of the town and surrounding barrios for the past five years?.....
 13. Is there a zone of land surrounding the proposed site 25 meters in width owned or controlled by the person, persons, corporation, church, or society, etc., desiring to establish the cemetery?.....
 14. Is this 25-meter zone free from all habitations and structures of any kind, except those provided for in Act No. 1458?.....
 15. Is it understood by the petitioner or petitioners that, in accordance with section 3 of Act No. 1458, this 25-meter zone is a part of the cemetery, and that no houses or structures except as provided in Act No. 1458 can ever be built upon it?.....
 16. Are there any houses, habitations, or structures of any kind within a zone 25 meters in width surrounding the proposed cemetery site? If so, indicate their location on the plan
 17. Are there any rivers, streams, springs, wells, or other sources of water supply within a zone 50 meters in width surrounding the proposed site? If so, show location on plan
 18. Are any water supplies, used for drinking purposes, within a zone 50 meters in width surrounding the proposed site?.....

19. Indicate on the plan the location and approximate distance from the proposed cemetery of all rivers, streams, wells, and other sources of water supply within a reasonable distance, even though beyond the 50-meter zone surrounding the cemetery.

20. Are there any houses, habitations, or structures of any kind, factories, industries, or cultivated lands within or adjacent to the 50-meter zone prescribed by law, surrounding the proposed site? If so, indicate their position on the plan, showing their approximate distance from the cemetery site.....

21. State whether the municipal council has made any rules, regulations, or by-laws covering the administration and use of cemeteries within its jurisdiction, and whether the same have received the approval of the Director of Health.....

22. Indicate on the plan the owners of the land surrounding the cemetery.

....., 190....

To the DIRECTOR OF HEALTH, Manila, P. I.

(Through the municipal council,, P. I.)

SIR: I have the honor to make application for permission to establish a cemetery upon the above-described site, said cemetery to be maintained subject to all provisions of Act No. 1458.

.....
Administrator.

....., 190....

Respectfully forwarded to the Director of Health, through the district health officer of recommending { approval.
disapproval.

.....
Municipal President.

COUNCILORS.

COUNCILORS.

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.....
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....., 190....

Respectfully forwarded to the Director of Health, recommending { approval
disapproval
for the following reasons.....

.....
District Health Officer.

REPORT ON OLD CEMETERY.

NOTE.—Submit a sketch or plan of the cemetery showing its location with reference to near-by towns and barrios, roads, rivers, streams, wells, springs, etc., and also indicate thereon such information as may be required by the following questions:

Date of inspection

Barrio, Town of, Province of

1. State the name of person, persons, corporation, society, or church owning or controlling the cemetery.....
2. How long has the cemetery been in existence?.....
3. What are the measurements and area of the cemetery?.....

4. What is the elevation of the cemetery with reference to the surrounding country?
 5. State the number of niches, their condition, and state of preservation.....
 6. State the character of the walls and their condition.....
 7. State the character of the soil. (Sandy, clay, gravel, or mixed).....
 8. What is the usual depth of the graves?.....
 9. At what depth is water encountered when graves are dug?..... Dry season; rainy season
 10. What has been the average death rate per thousand for the past five years?
 11. How many bodies have been buried in this cemetery?..... How many disinterments have been made?.....
 12. Has the entire site been used?..... If so, how many times?..... Is the site so covered with remains as to be insanitary and noxious?..... If the entire area has not been used over, what is the area of the portion still untouched?.....
 13. Give the names of the barrios which depend upon this cemetery as a place of interment for their dead?.....
 14. What population has been using this cemetery as a place of interment for its dead?
 15. When digging graves, is it the rule or the exception to encounter the remains of persons previously buried?.....
 16. What is the character of the remains that are encountered?.....
 17. Are water supplies of any character encountered within 50 meters of the cemetery; and if so, are any of them used for drinking purposes?.....
 18. State whether site is flooded during rainy season.....
 19. What is direction of drainage from site?.....
 20. Does drainage from site pass through any town or barrio or into any river, stream, well, spring, or other source of water supply?.....
 21. Indicate on plan the owners of the land surrounding the cemetery.
 22. Indicate on the plan any houses, habitations, or structures of any kind; factories, industries, plantations, rivers, streams, wells, springs, or other sources of water supply within 50-meter zone and also those a reasonable distance beyond said zone.
 23. Indicate on the plan any houses, habitations, or structures of any kind within a zone 25 meters in width surrounding the cemetery.
 24. Has the municipal council ordered the closing of the cemetery?.....
 25. Does the sexton, superintendent, or other person having charge of the burial ground understand that it is illegal to permit the interment of human remains without a death certificate, and that such certificate must have been issued within forty-eight hours of the time of burial?.....
 26. Give the following information with regard to other cemeteries of the town:
- Name
- Size
- Number of years in use
- What portion has been used.....
- How many bodies have been interred therein.....

190...

To the DIRECTOR OF HEALTH, Manila, P. I.

(Through the municipal council of))

SIR: I have the honor hereby to make application for permission to continue

in use the above-described cemetery subject to all provisions of Act No. 1458, with regard to old cemeteries.

Administrator.

....., 190....

Respectfully forwarded to the Director of Health, through the district health officer of, recommending { approval.
disapproval.

Municipal President.

COUNCILORS.

(COUNCILORS,

....., 190....

Respectfully forwarded to the Director of Health, recommending { approval
disapproval }
for the following reasons:

District Health Officer.

So far, the work of inspecting the cemeteries systematically in the Provinces of Isabela, Cagayan, Ilocos Norte, Ilocos Sur, Bataan, Pangasinan, Tarlac, Nueva Ecija, Bulacan, Rizal, Cavite, Tayabas, Albay, Ambos Camarines, Capiz, and Occidental Negros is well under way and some cemeteries have been passed upon in every province in the Islands. In all, there were 582 cemeteries inspected, of which number 272 were approved, 156 rejected, and on the balance decision is pending.

In view of the fact that this work entails an enormous amount of time and clerical work, it will still be several years, with the present office force, before all the cemeteries can be passed upon.

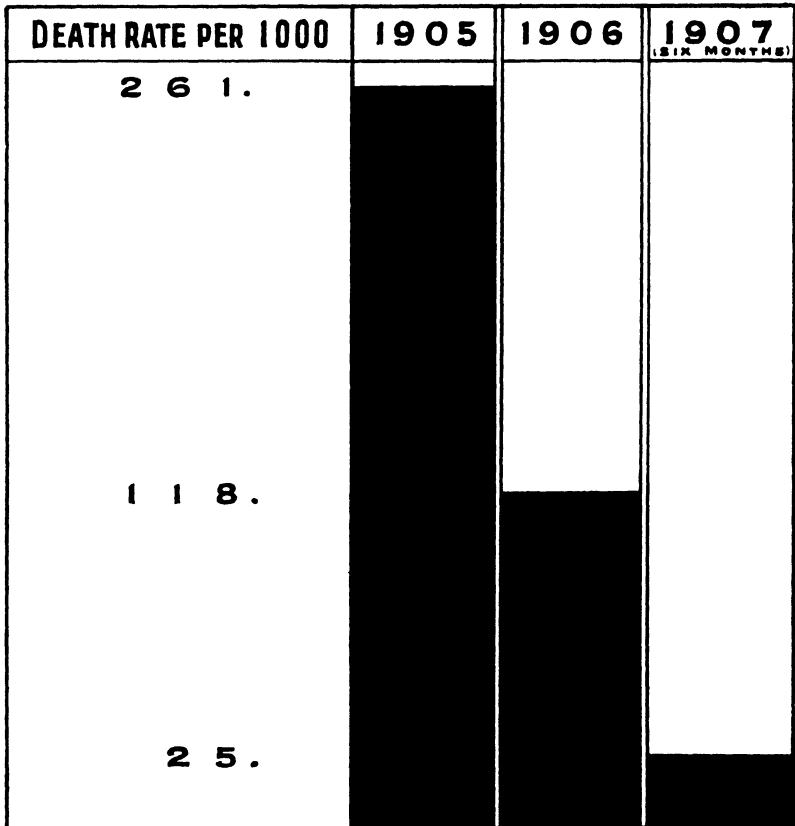
CIVIL-SERVICE PHYSICAL EXAMINATION.

Since the abolishment of the position of police surgeon and the taking over of the work by the Bureau of Health, the physical examinations required by the Civil Service Bureau for entrance into the Government service are made at the central office. The positions for which examinations are required include those of the fire department, police department, Bilibid guard service, light-house service, and special service. Applicants are examined with reference to their present condition and their previous history. The special senses are tested and the condition of the lungs carefully examined. Laboratory tests are often made in case of doubt. This work requires considerable time, because it would be absolutely worthless if it were imperfectly done.

IMPROVEMENT MADE AT THE IWAHIG PENAL SETTLEMENT.

Probably modern sanitary science has no greater victory to its credit than the eradication of malaria from the Iwahig penal settlement, in Palawan. This site was chosen by the Spaniards many years ago, but finally had to be abandoned on account of the pernicious malarial fever which prevailed there. Soon after the inauguration of civil government the site was again selected for the establishment of a penal colony, but satisfactory sanitary arrangements were not made and the health of the prisoners left much to be desired. In 1906 the Bureau of Health was placed in charge of the sanitation of the colony, and the health conditions since that date are shown in the accompanying diagram.

**CHART SHOWING REDUCTION IN DEATH RATE AT
THE IWAHIG PENAL SETTLEMENT, PALAWAN,
SINCE THE BUREAU OF HEALTH TOOK CHARGE.**



MOSQUITO EXTERMINATION.

During the year not much work has been attempted in eradicating mosquitoes, for the reason that heretofore the efforts have not met with much success, and it was felt that, unless mosquitoes could be economically exterminated from a well-paved section of Manila, like the Walled City, a campaign of general mosquito extermination throughout the Islands would not be practicable. Therefore, considerable time and attention was given to the study of the problem as to why the efforts in Manila have heretofore been unsuccessful.

An entomologist of the Bureau of Science examined into existing conditions and made reports and recommendations which gave promise of accomplishing the result hoped for. The suggestions were faithfully carried out, but the mosquito continued his strenuous life and it is only recently that a satisfactory explanation has been found. The extensive excavations which were made for the purpose of installing the new sewer system gave an opportunity to examine many of the old Spanish sewers which were opened during the course of the excavations. It had been observed that at certain seasons, and especially during the dry season, the Walled City suffered most from mosquitoes. It was found that the trouble was due to the slow movement of the water in the storm sewers. In the rainy season, contrary to expectations, the Walled City is almost entirely free from mosquitoes. This is explained by the fact that large quantities of water pass through the sewers at this time of the year, and the velocity of the water is such that mosquitoes are unable to breed, whereas in the dry season, no water entering the sewers, the current becomes more and more sluggish until finally the flow ceases altogether and only a series of pools remains, due to the inequality of the levels of the bottom of the sewers. This has, no doubt, been brought about by the frequent earthquakes which have taken place in the city. Such places offer excellent breeding places for mosquitoes; in fact, large numbers of wigglers were actually found. Many of these sewers will be replaced by cement drains which will have better grades and much relief may be expected in the near future. It is proposed, during the next dry season, to request the city fire department to flush the storm sewers from time to time and thus obviate the difficulty.

From the foregoing it may be seen that after all there was nothing peculiar about mosquito extermination in the Philippines, and from now on this work will be vigorously pushed, especially in the malarial districts.

NEW SEWER SYSTEM.

Although the construction of a new sewer system for Manila was definitely arranged for a number of years ago, yet it was not until this fiscal year that the work of construction was actually begun. The time now appears to be near at hand when the noisome wagons and the primitive

methods in general for the disposal of the major portion of the sewage of the city of Manila will be a thing of the past. The septic-tank system, which has been so largely used in the city and which has proven so very satisfactory, after all has only taken care of a small percentage of the total sewage.

During the year over 14 miles of sewer conduits have actually been laid and when it is remembered that this included the greater portion of the larger size sewers, it will be seen that even much more mileage may be expected during the coming year when the smaller sizes are laid. In all, 52 miles of street sewers have been contracted for.

With the completion of the new water supply system and the complete installation of a new sewage system the future improvement in the health conditions of Manila should be even more rapid than they have been in the past, because then it will not be necessary to struggle against the tremendous odds which have confronted the work of the Bureau of Health in the past.

HEALTH RESORTS.

The Philippine Islands is a land unusually well provided with thermal and mineral springs and attractive regions with high altitudes at which a complete change may be had. In nearly every province spots can be found that may truly be called natural health resorts, and visitors to many of them are unquestionably cured of their ailments or greatly benefited in health.

These places are not frequented to any extent by the American or European population, except Baguio, Los Baños, and Sibul Springs, which rank in importance in the order in which they are named. Baguio, although only 130 miles from Manila, is meteorologically in another and different world. Here the health seeker will find every natural condition he can possibly desire. As the Islands are developed, Baguio is bound to become a great sanitarium center. The Civil Government has maintained a sanitarium there for more than five years, and the numbers who avail themselves of the advantages offered have increased each year, the increase being particularly notable during the period covered by this report. The Benguet climate is very favorable for neurasthenic troubles and for the convalescent period of exhausting diseases. Patients suffering from dysentery usually show marked improvement from the first, and rapidly regain their normal condition. This is observed also in nearly all cases of health impairment due to overwork or mental strain. The Army has already established a convalescent hospital and the demand on it is so great that negotiations have been completed for the erection of another with three times the capacity of the first. The Navy also has taken the matter up and a report of a special committee recommending

the erection of a hospital has been forwarded to Washington. The coming year will probably witness the completion of this hospital, thus bringing the number up to three, and this, too, before the establishment of railroad communication.

Los Baños is a beautiful resort situated on Laguna de Bay, a few hours' trip by river steamer from Manila, and is renowned for its thermal springs. Excellent results are obtained in specific diseases and in rheumatic conditions.

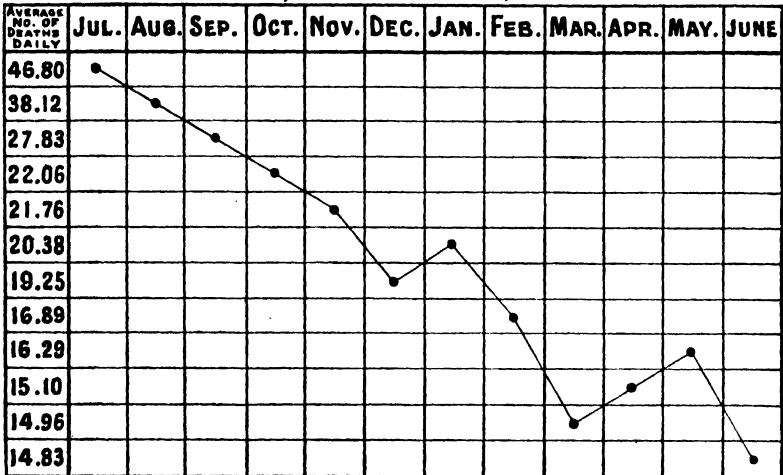
Sibul Springs in Bulacan Province is an old Spanish resort and still maintains its reputation, especially with the older inhabitants. It is understood that a company is now perfecting arrangements to establish a large hotel at this point.

These places will be important centers just as soon as railway facilities are provided.

DECLINE IN DEATH RATE.

The accompanying chart shows in a most striking manner the steady decline which took place in the average number of daily deaths, by months, in the city of Manila for the fiscal year just ended.

**AVERAGE DAILY MORTALITY CURVE FOR THE FISCAL YEAR
JULY 1, 1906¹⁹⁰⁷ TO JUNE 30, 1907**



TRAINING SCHOOL FOR FILIPINA NURSES.

The Bureau of Health has entered into a coöperative arrangement with the Bureau of Education to train those young Filipina women who have the adaptability and desire to become nurses, so that they may become qualified to take the places in the hospitals. Some of them show

a decided talent in this direction. The Commission has appropriated funds which are to be used for guaranteeing a free scholarship to one person for each province. In addition several commercial firms have defrayed the expense of additional scholarships. The plan is to give the girls a two years' course under the supervision of a graduate trained nurse. Special attention is to be given to such features of general education as will be most needful in the study of nursing, and also to the domestic-science training. The course will be largely practical and to this end a small hospital ward has been provided which draws its patients from the hundred or more inmates of the girls' dormitory. This course is to be only preliminary and the regular training will be completed in the new general hospital which is to be erected in the near future.

Nursing has undergone a process of evolution and the graduate nurse of to-day is quite a different person from the nurse of twenty or thirty years ago. In days gone by, physicians and surgeons never required of a nurse what is expected to-day. Recent years have brought about changes in the methods of diagnoses, treatment, and prevention of diseases. Asepsis alone has revolutionized surgery, but asepsis without a trained nurse to carry it out is impracticable. The preparation, sterilization, and use of the different surgical materials give scope for a display of much intelligence, ingenuity, and resourceful economy. A trained nurse must necessarily know something of bacteriology and pathology in order to carry out the physician's instructions with regard to asepsis and to detect the danger signs in disease. They must understand the art and science of infant feeding and know how to prepare infant foods. It would perhaps not be going too far to say that the lack of local trained nurses is one of the principal indirect factors in the high rate of infant mortality in the Philippine Islands.

The crusade against tuberculosis could be undertaken with more hope of success if Filipina trained nurses were available to instruct the people in their homes regarding the means by which the disease may be prevented.

The nurse is indispensable in settlement work, in district nursing, in public-school sanitation, in tenement-house inspection, and along other lines which it is desirable to instruct people in their homes.

It has been truthfully said that in no other vocation does the true woman show more of beauty and dignity of labor than in nursing. Correct theory and scientific accuracy in general principles and minute details are both desirable, but the true nurse must possess those womanly graces of tactfulness, sympathy, and unselfish devotion to her calling. Skill comes by doing, knowledge comes by study, but the higher attributes come only through careful training and inheritance.

STREET SWEEPINGS AS FILLING MATERIAL.

During the year the use of street sweepings for the purpose of filling in lowlands has been frequently permitted whenever it could be done under proper supervision. It is conceded from the outset that the use of this material is not desirable, but the sanitarian in Manila finds himself confronted with this problem: Vast areas of the city being at or below the level of high tide, is it better to permit these swampy sections to exist until good filling material can be obtained, which at best will be many years, or is it better to put up with a slight nuisance, which at most will not persist more than a few weeks, and have land at once which drains well and has the other advantages of high ground? Of the two evils, the latter has been chosen, with the result that areas of many acres now exist where only filthy swamps were found before. Experience has shown that if the dumpings of street sweepings are promptly covered with good clean earth to a depth of 10 centimeters or more, no nuisance is caused. In several instances where this was not done promptly, the sweepings made an admirable breeding ground, and a veritable plague of flies resulted, the undesirability of which, especially in times of cholera, need not be dwelt upon.

STATISTICAL DIVISION.

For a number of years past it has been the aim to prepare a complete statistical report which would include all the provinces and considerable effort has been made to bring about this result, but thus far without success. The obstacles which have constantly arisen have been of such nature as to prevent the accomplishment of the plan, and the fulfillment of this duty must be left to the future.

The number of births registered during the fiscal year were 7,136, or a birth rate of 31.92 per thousand inhabitants. They will be found classified by sexes, nationalities, legitimates, and illegitimates in a table appended herewith. It is believed that the total of 7,136 is really lower than the actual number of births, for the reason that a part of the population, fortunately a small number, still remains loath or indifferent to comply with the law. This belief is based upon the fact that new births are being registered even at the present time by the health stations when the death certificates are presented for approval, previous to the issuance of burial permits by the central office, of young children who have not before been reported. It must be mentioned, however, that this tendency is gradually diminishing.

The average, 31.92 per thousand, expresses what is known as the simple birth rate in the method now universally used for calculating the birth and marriage rates. A different method has been devised by certain statisticians to obtain the accurate birth rate of a given com-

munity, which is to compare the number of born legitimate children with the number of married women under 45 years of age and the number of illegitimate children with the unmarried women under 45 years; these are factors which can not be disregarded and are necessary when an exact computation of the birth rate is desired.

Eight thousand five hundred and seventy-one deaths were registered, of which 8,251 were residents, or a death rate of 36.91, and 230 transients. The rate of this year has been lower than that of any of the three preceding fiscal years: That of 1903-4 was 49.01; 1904-5, 40.58; and 1905-6, 40.99. Classified by sexes, the total is subdivided into 4,832 males and 3,739 females. According to the census taken at the beginning of this year, the population of Manila is composed of 130,421 males and 93,121 females; the respective death rates therefore by sexes would be 37.04 and 40.15. The high mortality prevailing among the females may be explained as especially due to the fact that there were 97 deaths registered as due to puerperal troubles—a condition, of course, not found in the males.

Classifying the deaths by ages, we find that there were 891 deaths among children under 30 days of age, 2,167 among those between 30 days and 1 year, and 1,422 between 1 year and 5 years. The deaths among these three groups of ages combined were 52.26 per cent of the total number of deaths, the first group alone representing 10.39 per cent, the second 25.28, and the third 16.59. Among those who died at the age of 90 years and over the death rate was 0.38 per thousand population.

The following table shows the oscillations observed in the infant mortality during the twelve months:

Age.	1906.						1907.						Average for year.
	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	
Under 30 days.....	5.88	6.79	8.62	13.49	14.24	16.29	11.98	12.87	12.08	12.46	9.07	12.52	10.39
30 days to 1 year..	21.65	24.14	29.52	28.96	27.00	26.99	28.85	25.75	24.16	25.86	21.16	22.45	25.28
1 to 2 years.....	13.63	10.55	7.80	5.39	3.70	4.63	5.58	4.22	4.79	6.46	7.45	9.21	7.89

Classified by groups of causes, the deaths are arranged as follows:

	Males.	Females.
General diseases.....	1,981	1,824
Diseases of the nervous system.....	1,148	940
Diseases of the circulatory system.....	141	77
Diseases of the digestive system.....	544	453
Diseases of the genito-urinary system.....	95	84
Puerperal diseases.....		97
Diseases of the skin and cellular tissue.....	8	4
Diseases of the organs of locomotion.....	7	1
Congenital malformations.....	5	
Diseases of early infancy.....	248	199
Senility.....	75	137
External causes.....	86	23
Undetermined causes.....	44	20
Total.....	4,832	3,739

For the purpose of completing the study of all the factors which have an influence upon the movement of the population of the city, and as one of them is the number of marriages solemnized and this information is not obtained by the Bureau at the present time, a deduction will be made from other more accessible data, namely, as the number of mothers who have borne children for the first time during the year, from which an approximate average of 8.57 per thousand inhabitants is obtained.

The following provincial table is believed to be only approximately correct and it should not be used for drawing deductions:

Mortality reports of nineteen provinces, calendar year 1906.

Province.	Number of inhabitants.		Number of deaths.	Death rate per thousand—	
	Census population.	Registration area.		On census population.	On registration area.
Ambos Camarines	233, 472	228, 440	5, 794	24. 81	25. 86
Antique	131, 245	131, 330	1, 756	13. 37	13. 37
Batangas	257, 715	250, 510	6, 270	24. 32	25. 22
Bohol	269, 223	269, 223	3, 487	12. 95	12. 95
Bulacan	223, 327	223, 486	11, 181	50. 06	50. 03
Capiz	225, 092	222, 469	3, 981	17. 68	17. 75
Cavite	134, 779	134, 779	6, 128	46. 22	46. 22
Cebu	653, 727	706, 153	10, 374	15. 86	14. 69
Ilocos Sur	173, 800	372, 795	10, 166	58. 49	27. 26
Iloilo	403, 932	394, 742	13, 775	34. 10	34. 89
Laguna	148, 606	135, 005	5, 880	39. 56	43. 55
Misamis	135, 473	132, 601	2, 541	18. 75	19. 16
Negros Occidental	303, 660	308, 544	7, 811	25. 72	25. 31
Nueva Ecija	132, 999	133, 358	4, 812	36. 17	36. 08
Pampanga	222, 656	226, 180	10, 058	45. 17	44. 44
Pangasinan	394, 516	436, 034	13, 245	33. 57	30. 57
Sorsogon	120, 454	122, 624	3, 297	27. 38	26. 88
Tarlac	133, 513	140, 781	4, 294	32. 16	30. 50
Tayabas	150, 262	200, 815	6, 701	44. 59	33. 36
Total	4, 448, 451	4, 769, 869	141, 471	31. 80	29. 65

CIVIL HOSPITAL DIVISION.

The amount of suffering and distress which has been relieved at this Government institution during the year can scarcely be realized by persons who have not had occasion to visit the hospital from time to time. Not only have all Government employees received medical care, but many persons outside of the Government service, on account of the meager hospital facilities in Manila, have enjoyed its advantages. Although the buildings used by this division are entirely unsuited for hospital purposes, the painstaking care of the medical and nursing staff has done much to overcome this shortcoming. There are more highly trained nurses on duty at the Civil Hospital than at any hospital in the Orient, so that the employee who falls ill at least has the assurance and satisfaction of knowing that he works for a Government that has provided facilities for his care which are far above the average.

The results of the treatment of patients have been very satisfactory. There were 1,310 patients treated, of whom 818 were white people,

463 Filipinos, and 29 Chinese, Japanese, and other Asiatics. Of this number of patients only 29 deaths occurred, 3 being patients of outside physicians. As 8 of the deaths were those of patients brought to the hospital in a moribund condition, they may be properly excluded from the number of deaths in the institution. On this basis, the death rate would be less than $1\frac{1}{2}$ per cent of the cases treated.

The number of prescriptions filled and refilled in the hospital dispensary was over 8,000, and the number of dressings applied in the operating and dressing rooms was nearly 11,000.

About 1,000 minor operations were performed upon outdoor patients who presented themselves for treatment.

The efficiency of the hospital is considerably embarrassed by lack of suitable quarters. It is hoped that the annual report for the next year may record the assured fact of the long-hoped-for general hospital of Manila.

Elsewhere will be found a report in detail showing the number of patients treated, with a record of the diseases and mortality.

BILIBID SANITATION.

The high death rate in Bilibid Prison was a source of mortification to the Bureau of Health long before it took over the medical and sanitary work of the prison. One of the first moves after assuming this work was to improve the sanitary condition by admitting light and air and to relieve the overcrowding which was believed to be an important factor in the excessive mortality. The death rate was 238 per thousand when the Bureau of Health took charge. A number of structural improvements have been made; all the drains have been deepened and made semicircular, the level of the ground has been raised, and a system of daily sprinkling instituted. Drinking-water barrels were provided with locked covers to guard against contamination. Rigid inspections were made of all latrines. Prisoners who were sick were encouraged to come into the hospital upon the appearance of their first symptoms. Some months after the introduction of these immediate measures, it was reduced to an average of about 75 per thousand and here it remained; it seemed impossible to get it any lower. Like everything else, there was a reason for this. The prisoners were dying with ailments that should not have killed them; their powers of resistance were evidently impaired. The habits and customs of the people with reference to eating suggested a clue and a remedy. The clue pointed to some extraordinary drain on the system. There was plenty of food, but imperfect nourishment. To discover the cause, a routine practice was inaugurated and the feces of every prisoner in the prison was examined for the presence of ova of intestinal parasites; these were found to be present in about 60 per cent

of all cases examined. Active therapeutic measures were inaugurated to rid the patients of the causes of these debilitating troubles and the result was immediately satisfactory—the death rate fell to about 20 per thousand.

The prevailing diseases treated in Hospital "A," Bilibid Prison, were ankylostoma, 1,537 cases; amœbic dysentery, 551 cases; acute dysentery, 174 cases; cholera, 18 cases; pneumonia, 62 cases; beriberi, 60 cases; conjunctivitis, 221 cases, and malaria, 174 cases.

During the previous year only 39 cases of ankylostomiasis were treated as compared with 1,537 cases during the present year. There have been 551 cases of amœbic dysentery treated as against 111 cases for the preceding year. These figures do not by any means indicate a greater prevalence of this disease and may be explained on the ground that they were detected by the systematic stool examinations which have been practiced. Among the rarer parasites that have been found are *Paragonimus westermanii*, 9 cases; *Schistosoma japonicum*, 15 cases; *Opisthorchis sinensis*, 5 cases; *Balantidium coli*, 14 cases; *Tenia saginata*, 20 cases; *Tenia solium*, 2 cases, and *Tenia nana*, 3 cases.

Plans have been drawn for a new sewer system and for new sanitary beds; these improvements, when installed, are expected to reduce the death rate still further.

Work will soon be begun upon a new prison hospital, which is greatly needed. With this new building and the completion of the improvements already in progress and a continuance of the same competent medical supervision, there is no reason why Bilibid should not be made the healthiest prison in the Orient.

Every new patient is subject to a routine treatment before he is assigned to a brigade. If these measures could be carried out throughout the city generally, it is believed that the infant mortality would be greatly reduced. Of course, in the very young infants intestinal parasites would not be found, but they suffer nevertheless indirectly from them because of the impoverished condition of their mothers, on whom they rely for support. If this office were asked to give the most common affliction of the natives of the Philippines, it would unhesitatingly name intestinal parasites.

BENGUET SANITARIUM DIVISION.

The erection of two sawmills, the installation of additional mining plants, and the increase in road work have contributed the usual percentage of accidents and other sickness, which, added to the steady increase in the medical work caused by the constantly augmenting number of visitors to Baguio, have increased the amount of work to be done in the hospital at a much more rapid rate than heretofore has been the

case. In addition to the foregoing, the Igorots have taken more kindly to hospital treatment, and their sick and injured have been brought for many miles around to the hospital at Baguio.

The prescriptions filled at the pharmacy show an increase of 55.29 per cent, or 710 more prescriptions filled than last year, which alone is an indication of the growth of the medical work.

Eighty cases of malarial fever were treated at the hospital and the results were uniformly satisfactory, much more so than those cases which are ordinarily treated at lower altitudes. All of these patients came from the lowlands, none of them originating in altitudes as high as that in which the sanitarium is located. The mosquito-transmission-of-malaria theory receives further confirmation in the experience at Baguio, because no *Anopheles* mosquitoes are found there.

The treatment of amœbic dysentery at the hospital met with the same excellent results that were obtained in years past. It has been proven beyond question that frequently a trip to Japan or to the United States can be avoided when this malady resists ordinary methods of treatment in the lowlands.

In addition to the routine work connected with the administration of the hospital and the treatment of the sick, the medical officer in charge, in his capacity as sanitary officer of the province, made many trips of inspection to markets, mining camps, water supplies, etc., and gave the necessary directions for maintaining them in proper condition.

One case of cholera was imported into Baguio, but was so promptly handled that no further spread of the disease took place. An outbreak of smallpox which occurred along the Benguet road was quickly suppressed and practically no spread took place from the time the original cases were discovered.

The work of the division has been seriously handicapped by the poor buildings which had to be used for hospital purposes during the year.

It will be remembered that the former sanitarium building was transferred to private persons for hotel purposes, and only two cottages remained in which to conduct the hospital work. The appropriation for the new hospital was not made as quickly as anticipated, thus giving rise to great inconvenience and lack of facilities for doing the work properly. This omission has, however, now been supplied, the Commission having appropriated ₱50,000 for the construction of a hospital which, it is thought, will meet all demands which may be made upon it for some years to come. An excellent site has been chosen and it is hoped that within six months the new building will be ready for occupancy.

There were 26 Americans, 2 Europeans, 189 Filipinos, and 48 Japanese, making a total of 264 patients, treated in the hospital, which is an increase of 113 patients, or nearly 76 per cent over last year. The

number of surgical cases treated was 43, an increase of nearly 54 per cent over last year. The number of outdoor patients, mostly Igorots, was 1,371, an increase of over 129 per cent.

The meteorological advantages of Baguio have been spoken of elsewhere. The warmest day of the year was on May 5, when the temperature was 26° centigrade ($79\frac{1}{2}^{\circ}$ F.), and the coldest was on January 9, when the temperature was 4.4° centigrade (40° F.). The highest monthly average or mean temperature was recorded in June, 23° centigrade (73.62° F.), and the lowest monthly mean temperature was recorded in the month of February, 9.25° centigrade (48.58° F.).

CULION LEPER COLONY.

At the close of the fiscal year there were 739 lepers at the Culion leper colony. The mortality during the year has been high, which may be ascribed to the miserable physical condition in which the lepers were found at the time they were gathered from their respective provinces. The great majority were beggars who eked out a precarious existence begging on the streets, from house to house, or existing on such charity as might be bestowed upon them. Many suffered from gangrenous ulcers. Before their arrival at Culion, some of them were afflicted with beriberi, and the weakened condition in which many of the others were found made them ready prey to this disease. It is not believed, however, that the transfer of the lepers to Culion in any way hastened their end; rather, life was prolonged in many instances, owing to the medical attention given and the excellent food which is furnished. It was simply a question of the survival of the fittest and among those remaining in this group death is comparatively infrequent. They are healthier, stouter, and generally more robust than when they were received and many of them bid fair to live a long time. The deaths, by months, were as follows:

1906.	Number.	1907.	Number.
July	45	January	23
August	48	February	12
September	39	March	13
October	26	April	19
November	36	May	17
December	36	June	23

Thus, for the first six months there were 230 deaths and for the last half of the year 107. In view of the fact that the colony during the latter portion of this period had almost double the population it had during the commencement of the year, the great reduction in the death rate will be apparent.

Practically all gangrenous ulcers, by proper medical attention, have healed and the number in the hospital from other causes has been

gradually reduced. The deaths among the lepers were due principally to gangrenous septicemia, beriberi, tuberculosis, or general debility.

On February 28 a mild case of smallpox attacked a young girl of the colony. Isolation and quarantine were maintained for a month subsequent to disinfection. Vaccination of all the lepers of the colony and also of the nonleper employees was performed, with the gratifying result that no other cases developed, which fact again speaks for the efficiency of vaccination as a preventive of smallpox. In this case it is quite interesting to note the result of the vaccinations. In the lepers we had practically virgin soil; some had been vaccinated during the Spanish régime, but the majority had not. Many adult lepers had not been vaccinated because of the very fact that they were lepers, and also leprous children were passed for the same reason by provincial vaccinators. Thus, with good fresh virus, it was interesting to watch results and compare the percentage of takes in the lepers under these conditions, and of the nonlepers (employees), among whom there were many laborers who had never been vaccinated. The number of takes among the lepers was as large as that in healthy subjects and in no particular could it be said that leprosy modified the effect of the vaccination.

The source of infection in this one case is not quite clear. None of the lepers had come in contact with persons from the outside world for several months. It is believed that the contagion came in some textiles which were sent to Cullion by friends residing in infected districts.

Discipline.—The behavior of the lepers has been good. Only one serious offense was committed and that was on the day of admission, which was November 1, 1906; a man stabbed his wife three times with a bolo, but though the wounds were of a grave character, she eventually recovered, and her husband was sentenced to six months' imprisonment and to be deprived of his gratuity indefinitely. A few minor offenses have occurred and suitable punishment administered. Eighteen lepers at various times have attempted to escape. All but three have returned or have been returned. Two groups of five each succeeded in reaching Cuyo, in a small open boat, but were apprehended by the Constabulary and returned on the leper boat.

Subsistence.—The subsistence furnished has been excellent in quantity, quality, and variety. Four beeves were consumed per week, the same being inspected and slaughtered at Balala. Other food consists of rice, mongos, beans, fideos, salmon, codfish, tomatoes, lard, coffee, sugar, milk, salt, garlic, pepper, vinegar, and fresh fish caught by themselves. The lepers have requested that fresh vegetables be furnished them, but these they might easily raise themselves and probably will do so to a small extent this rainy season. Seeds have been given them and permission to plant at Baldat and Toboc.

Productive labor.—It is very difficult to accomplish any work with the lepers; many are reasonably strong robust persons who might do considerable work if they wished to do so. It is true that the majority are debilitated, more or less always ill, easily fatigued, and could accomplish little; but the majority of those who could work are lazy and indolent, and as long as they are clothed, fed, housed, and receive a weekly gratuity of 20 centavos from the Government, they do not take kindly to any form of manual labor, and it is with difficulty that even the ordinary work of cleaning up their premises is accomplished.

Births.—During this year there have been six children born at the colony, three of whom survive. In four of the cases the mothers were pregnant before arrival at the colony; the other two are Cunion children, born out of wedlock. This brings up probably the most difficult problem to handle under the existing conditions—the separation of sexes. There are some 89 houses on the colony, of varying accommodations, all located within a radius of some 500 yards, thus bringing the people in close contact nearly all the time. The houses have been numbered and certain ones designated to be occupied by males and others by females, except in the case of a family of different sex which may be permitted to occupy the same house when it can be satisfactorily arranged. At night the separation is not believed to be satisfactory. The police and others who are depended upon to carry out instructions regarding this matter are but human themselves and can not be depended upon to keep the inmates in their respective quarters.

The missionary work which is done among the lepers by the two members of the Jesuit order and the Sisters of Charity on duty there has had, no doubt, an excellent effect.

In order to give these unfortunates the greatest measure of liberty they are permitted to roam about the island at will during the daytime, so that additional opportunities for the meeting of the sexes are possible even though absolute separation could be enforced at night.

The question of the separation of the sexes has received the most serious consideration from the highest to the lowest official who is in any way connected with the care of the lepers in the Philippines, and while there is no unanimity, yet the consensus of opinion undoubtedly is that while the undesirability of the commingling of the sexes is fully appreciated and greatly to be deplored, yet, judging from the customs and habits of the people, it is thought that the complete separation of the sexes is impracticable, if not impossible. The remedy lies rather in persuasion than in the application of force, and it is believed that the former will yield the best results. It is a moral question, and since the government of the colony is made to conform as closely as practicable to that of the ordinary Philippine town, it would appear that the management of this question should be left to the church.

Children.—It has about been decided to build a suitable house in the nonleprous portion of the colony for the care of such children as are born at the colony, where they would be cared for by the Sisters of Charity.

Improvements.—The regular employees of the colony, with practically no outside assistance, made many improvements during the year and in consequence the appearance of the colony has been much enhanced.

A fill was made near the quarters of the nonleprous employees, and a large bodega erected thereon. The new gravity water system with its pipe line of more than a mile in length, which leads from a reservoir back in the hills, has been completed and more water is available for the colony than can possibly be used. A large lighter was built for unloading freight. The construction of steps and proper walks is well under way. A house for the assistant physician is under construction. All buildings have been repaired where necessary. The nipa houses used by the lepers are being repaired by themselves with nipa, which was furnished them. Changes were made in some of the water-closets. Considerable painting and whitewashing was accomplished.

During the coming year it is proposed to build an addition to the hospital and to erect another bodega so that the buildings which are now used for that purpose may be used for living quarters for lepers. The construction of nipa houses will be steadily continued. Plans for a new building for nonleprous children are now being prepared.

SAN LAZARO HOSPITALS DIVISION.

This division comprises the smallpox hospital, plague hospital, cholera hospital, leper hospital, hospital for the insane, and the morgue and crematory. In all of its hospital departments 488 patients have been admitted during the year, 308 of whom were remaining on June 30. One of the principal benefits accruing from conducting these different institutions under one management is economy. The daily cost of subsistence for the year has averaged about 34 centavos, Philippine currency, which, considering the character of the food which has been provided, is remarkably low.

Insane department.—The insane department has been somewhat overcrowded, but in January of the present year the construction of a new ward, which will accommodate 250, was begun. It is now almost completed and will be ready for the reception of patients August 15. The new building is of reënforced concrete and is practically fire and earthquake proof. With this increase in the facilities of the department, accommodations for 350 insane persons will be available. The male inmates have been occupied a portion of the time in cultivating vegetables and the female inmates have rendered much assistance in doing some of the sewing that is required for the different divisions of the

Bureau. The majority of the males do not take very kindly to physical work and much persuasion is often necessary.

Leper department.—At the close of the fiscal year there were 129 male and 87 female lepers remaining in the hospital, and a happier and more contented lot, so far as lepers go, could not be found anywhere.

A new X-ray apparatus, of the latest design, has been installed and by its mere presence alone has done much to make the lepers better satisfied because they feel efforts are at least being made to cure them of a disease that has been considered incurable heretofore.

With the gift of a Spanish resident, instruments were purchased and a leper orchestra was organized which furnished considerable diversion for a time, but unfortunately the fingers of the players soon became so abraded and sore that the use of the stringed instruments had to be discontinued.

Cholera, plague, and smallpox departments.—The plague and smallpox wards have been very little used. The cholera ward has practically been closed since October of the last year. At the close of the fiscal year these three wards were empty.

Morgue.—During the period covered by this report 835 bodies passed through the morgue, most of them being sent there to be buried free of charge as pauper patients by the city. It is now the practice not to cremate except when requested, owing to the opposition to this method of disposing of the dead.

(The statistical tables for this division will be found in the appendix.)

CLERICAL DIVISION.

The work of the clerical division was often seriously handicapped during the year owing to the various changes in personnel, the necessity for employing temporary employees to replace those on leave, and to the expansion of the Bureau. At the present time, among the American employees, there are but two in the division who were there at the beginning of the fiscal year, and of those present now, including the chief of the division, none have been employed for a complete year. From the foregoing it may be seen that the experience of this office corresponds closely to that of nearly every Bureau of the Insular Government—increasing difficulty is encountered in securing and retaining the services of trained employees. The majority of them resign and return to the United States, where they usually work for lower salaries than are paid here.

The law which changed presidents of provincial boards of health and

made them district health officers, and therefore employees of this Bureau, occasioned an enormous amount of correspondence; the constant increase in the number of inmates at the Culion leper colony; the passage of the recent act which provides for the consolidation of municipalities into municipal health districts; the changes made in the license law; the several hundred additional vaccinators who were employed during the year, a record of each one of whom is kept; the increase in the number of insane at present being cared for by this Bureau; the new cemetery law which provides that every cemetery in the Philippine Islands must be passed upon, and the many other duties which have been added to the Bureau of Health, have placed an enormous amount of additional work upon this division. It is therefore very satisfactory to report that there has been practically no increase in the clerical force, the work being handled by the number of employees who were authorized last year.

It is believed that more overtime work has been done and more accomplished with less employees than was the case in any other Bureau of the Government.

(The financial statement will be found in the appendix.)

SANITARY ENGINEERING DIVISION.

The work of this division has been considerably interrupted by a change in engineers, Mr. J. D. Fauntleroy having resigned to enter the Reclamation Service of the United States. Practical operations in Manila were suspended almost entirely during the months of December, January, February, and March. In December the energies of the division were directed to closing up the outstanding orders so as to be ready to begin the work of the new year under the Sanitary Code, which had been passed to go into effect on the 1st day of January. The other three months' delay was occasioned by the groundless protests against the new legislation. The press had so excited the people that it was deemed best to hold all work in abeyance until they had time enough to see that they were being misled, and the code itself was no stricter than the scattered ordinances which had regulated these matters for many years.

The scope of the work of the sanitary engineering division covers the entire Islands, and more and more attention is being paid each year to provincial work.

The various styles of septic vaults which have been evolved as a result of the experience gained since the American occupation have now been so perfected and have given such uniform satisfaction that it has been deemed advisable to include in this annual report a drawing

SPECIFICATIONS.

To be of dimensions, shape, and design shown in drawing and to consist of five walls (AC, CC, CA, AA, and BB) of concrete or suitable masonry.

The wall (BB) back of closet on first floor and terminating under floor of closet on second floor to be supported by arch (MM).

Bottom of vault (HJ) to be at least 1.50 meters below ground surface (RS).

Seats (XX) to be of wood as shown, and connection between seats and vault to be airtight.

All seat holes to be covered with hinged wooden covers (YY).

Vault to be vented properly with a cast-iron pipe (PP).

Floors of closets (TU and WQ) to be of wood covered with a coating of cement mortar sloped toward door of closet.

Top of vault on second story (ÑO) to be covered with an airtight wooden floor, connection between floor and vault to be airtight.

Concrete to be composed of $1\frac{1}{2}$ parts pure Portland cement, 3 parts clean sand, and 5 parts of gravel or stone broken small enough to pass through a 2-inch ring.

The Portland cement to be of one of the standard brands in general use in Manila, or of a quality equally as good, and which shall be satisfactory to the city engineer and the Bureau of Health.

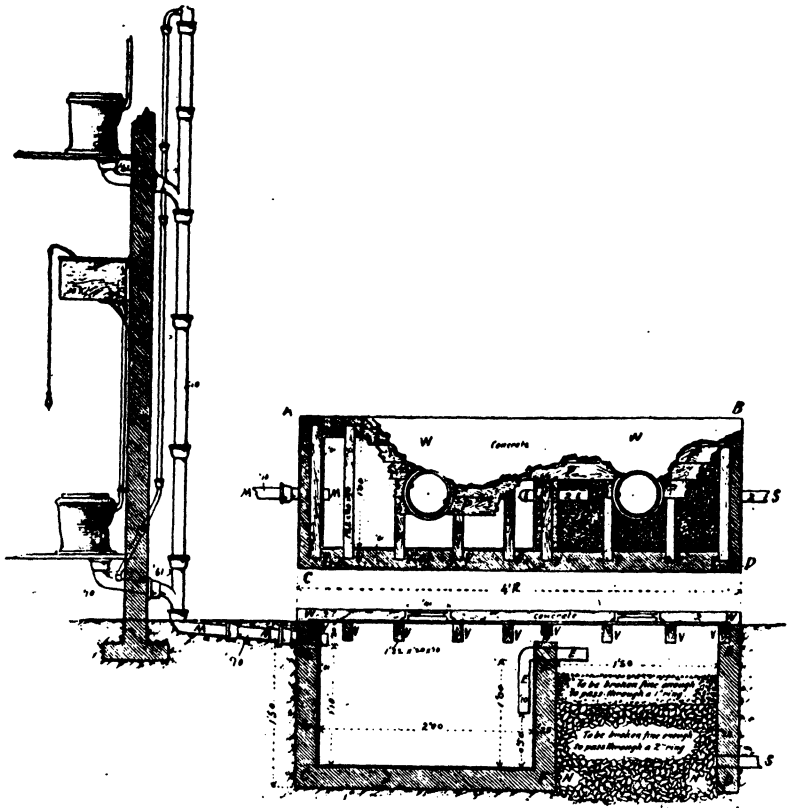
Sand to be cleaned of all mud, loam, ooze, salt, and other impurities by washing in fresh water.

The cement, sand, and broken stone to be mixed while dry. Enough water shall be used to wet thoroughly the different ingredients.

The concrete to be mixed only in small quantities, and each batch to be placed as soon as mixed, and thoroughly tamped.

Mortar to be composed of equal parts of pure Portland cement and clean sand mixed with enough water to convert same into a soft paste. When applied to interior surface and top of vault to be well worked in with trowels.

CAUTION.—The dimensions of the above vault are estimated to be sufficient for the use of 8 adults, reckoning that same will be cleaned every six months. In case a vault is desired for a larger number, the size shown in drawing should be proportionately increased.



SEPTIC OR DISCHARGE VAULT.

SPECIFICATIONS.

To be of the dimensions, shape, and design shown in drawing, and to consist of four main walls (AB, BD, DC, and 'A), a division wall (FF), and bottom of receiving vault (CF) of concrete or other suitable masonry, lined with a layer of cement mortar, a bottom of loose stone (NN) to filter, vault, and a concrete top (WW) to rest on a wooden platform consisting of a board floor (PPP) laid on joists (VVV).

Filter vault to be filled with loose or broken stone or gravel, as shown.

Top of both receiving and filter vaults to be provided with cast-iron trapdoors; connection between trapdoors and vaults to be airtight.

An opening (R) in the division wall (FF) to be left for ventilation.

Wastes to enter receiving vault through cast-iron waste pipe (MM) provided with clean-out as shown, to pass into filter vault through a cast-iron 90° bend (EE), and to discharge into street sewer or estero through discharge pipe (S).

The under side of top of vault (PP) to be level with ground surface.

Concrete to be composed of $1\frac{1}{2}$ parts pure Portland cement, 3 parts clean sand, and 5 parts of gravel or stone broken small enough to pass through a 2-inch ring.

The Portland cement to be of one of the standard brands in general use in Manila, or of a quality equally as good, and which shall be satisfactory to the city engineer and the Bureau of Health.

Sand to be cleaned of all mud, loam, ooze, salt, and other impurities by washing in fresh water.

The cement, sand, and broken stone to be mixed thoroughly while dry. Enough water shall be used to wet thoroughly the different ingredients.

The concrete to be mixed only in small quantities, and each batch to be placed as soon as mixed, and thoroughly tamped.

Mortar to be composed of equal parts of pure Portland cement and clean sand mixed with enough water to convert same into a soft paste. When applied to interior surface and top it should be well worked in with trowels.

Boards for floor, joists, etc., to be of well-seasoned native wood of first group, or of some variety equally durable.

CAUTION.—The dimensions of the above vault are estimated for the use of 8 adults, reckoning that same will be cleaned every year. In case a vault is desired for a larger number, the size shown in drawing should be proportionately increased.

SPECIFICATIONS.

To be of dimensions, shape, and design shown in drawing, and to consist of four walls (AB, BD, DC, and CA) of concrete or suitable masonry, a bottom of loose stone (FF), and of a concrete top (RR) to rest on a wooden platform consisting of a board floor (NNN) laid on wooden joists (VVVV).

Top of basin to be provided with a bell-trap (K) and vent (O) extending 50 cm. above the eaves of the house, and a cast-iron trapdoor (T).

Concrete to be composed of $1\frac{1}{2}$ parts pure Portland cement, 3 parts clean sand, and 5 parts of gravel or stone broken small enough to pass through a 2-inch ring.

The Portland cement to be of one of the standard brands in general use in Manila, or of a quality equally as good, and which shall be satisfactory to the city engineer and the Bureau of Health.

Sand to be cleaned of all mud, loam, ooze, salt, and other impurities by washing in fresh water.

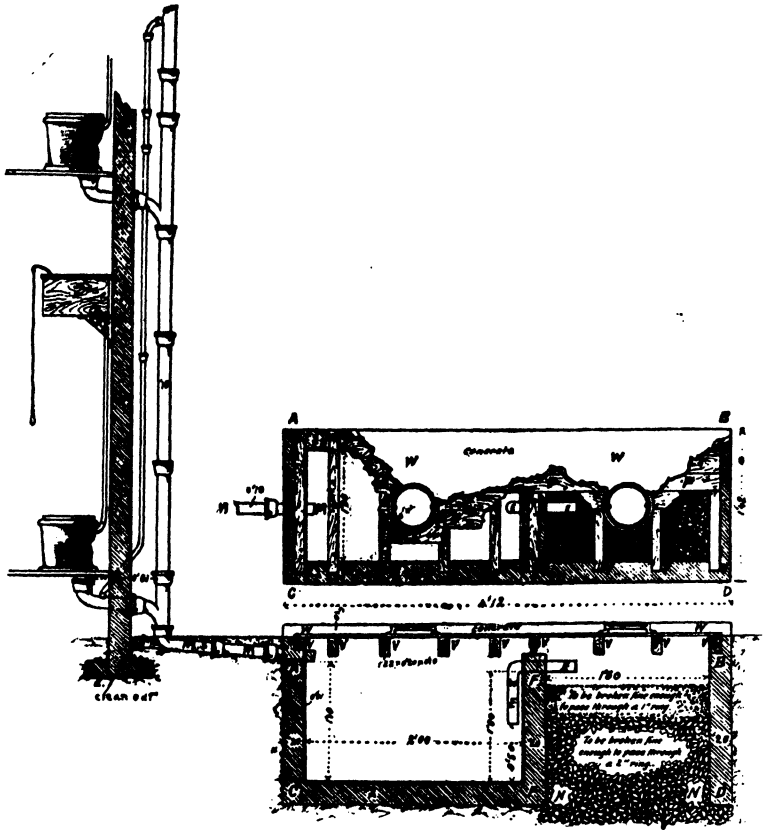
The cement, sand, and broken stone to be mixed while dry. Enough water shall be use to wet thoroughly the different ingredients.

The concrete to be mixed only in small quantities and each batch to be placed as soon as mixed, and thoroughly tamped.

Mortar to be composed of equal parts of pure Portland cement and clean sand mixed with enough water to convert same into a soft paste. When applied to interior surface and top of basin to be well worked in with trowels.

The interior of basin to be provided with a filter of broken stone or gravel, as shown.

CAUTION.—Whenever the deposit of mud, grease, etc., on top of gravel filter prevents proper absorption same must be scraped off and removed from basin.



SEPTIC ABSORBING VAULT.

SPECIFICATIONS.

To be of the dimensions, shape, and design shown in drawing, and to consist of four main walls (AB, BD, DC, and CA), a division wall (FF), and a bottom of receiving vault (CF) of concrete or other suitable masonry lined with a layer of cement mortar, a bottom (NN) of loose stone to absorbing vault, and of a concrete top (WW), to rest on a wooden platform consisting of a board floor (PPP) laid on joists (VV).

Absorbing vault to be filled with loose broken stone or gravel as shown.

Top of both receiving and absorbing vaults to be provided with cast-iron trapdoors, connection between trapdoors and vaults to be airtight.

An opening (R) in division wall (FF), to be left for ventilation.

Wastes to enter receiving vault through cast-iron waste pipe (MM), and to pass into absorbing vault through a cast-iron 90° bend (EE).

The under side of top of vault (PP) shall be level with ground surface.

Concrete to be composed of $1\frac{1}{2}$ parts pure Portland cement, 3 parts clean sand, and 5 parts of gravel or stone broken small enough to pass through a 2-inch ring.

The Portland cement to be one of the standard brands in general use in Manila, or of a quality equally as good, and which shall be satisfactory to the city engineer and the Bureau of Health.

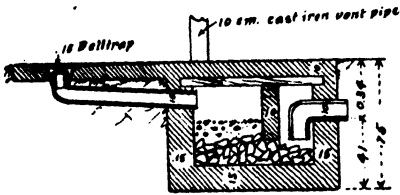
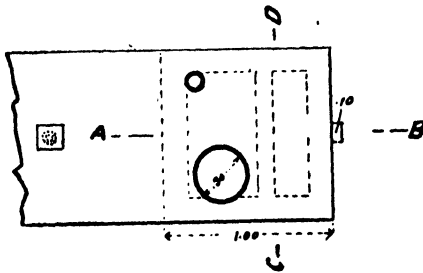
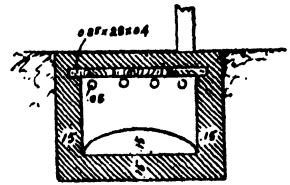
Sand to be cleaned of all mud, loam, ooze, salt, and other impurities by washing in fresh water.

The cement, sand, and broken stone to be mixed while dry. Enough water shall be used to wet thoroughly the different ingredients.

The concrete to be mixed only in small quantities and each batch to be placed as soon as mixed, and thoroughly tamped.

Mortar to be composed of equal parts of pure Portland cement and clean sand mixed with enough water to convert same into a soft paste. When applied to interior surface and top of vault to be well worked in with trowels.

CAUTION.—The dimensions of the above vault are estimated to be sufficient for the use of 8 adults, reckoning that same will be cleaned every year. In case a vault is desired for a larger number the size shown in drawing should be proportionately increased.

SECTION A B.**SECTION CD**

DOUBLE SECTION GRAVEL FILTER DISCHARGING CATCH BASIN.

SPECIFICATIONS.

To be of dimensions, shape, and design shown in drawing, and to consist of four side walls, a partition wall, and bottom of concrete or suitable masonry, lined with a layer of cement mortar, and covered with concrete.

Top of basin to be provided with bell-trap, and vent extending 50 cm. above the eaves of house, also a 30 cm. iron manhole with cover.

An apron of concrete to be provided as shown.

Basin to be filled with broken stone or gravel, as shown. All water to enter basin through bell-trap and cast-iron pipe, and after passing through filter to leave basin through discharge pipe to street gutter.

Depth of bottom of basin to be at least 41 cm. below bottom of discharge pipe.

Concrete to be composed of $1\frac{1}{2}$ parts pure Portland cement, 3 parts clean sand, and 5 parts of gravel or stone broken small enough to pass through a 2-inch ring.

The Portland cement to be of one of the standard brands in general use in Manila, or of a quality equally as good, and which shall be satisfactory to the city engineer and the Bureau of Health.

Sand to be cleaned of all mud, loam, ooze, salt, and other impurities, by washing in fresh water.

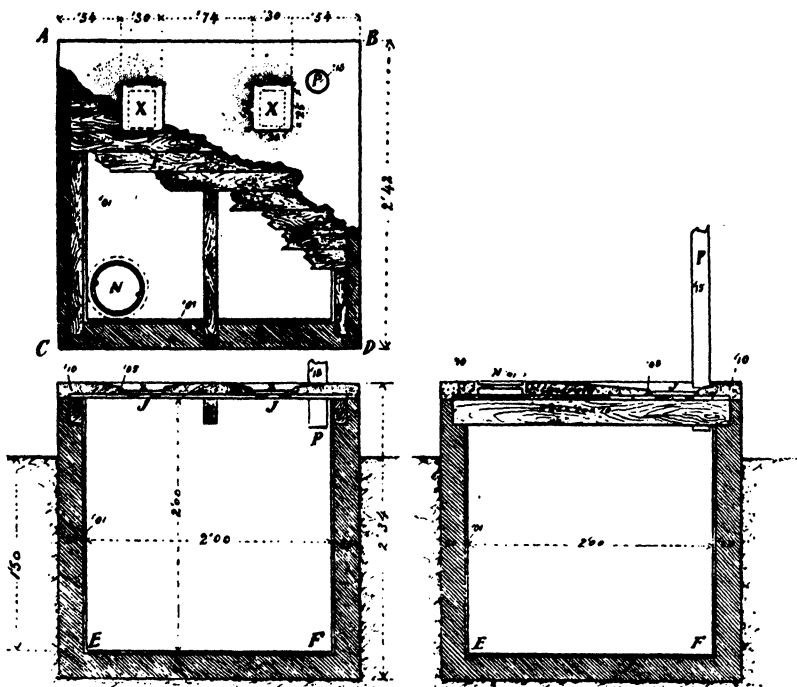
The cement, sand, and broken stone to be mixed while dry. Enough water shall be used to wet thoroughly the different ingredients.

The concrete to be mixed in small quantities and each batch to be placed as soon as mixed, and thoroughly tamped.

Mortar to be composed of equal parts of pure Portland cement and clean sand mixed with enough water to convert same into a soft paste. When applied to interior surface and top of basin to be well worked in with trowels.

CAUTION.—The dimensions of the above basin are estimated to be sufficient for the disposal of 20 gallons of waste water daily.

Whenever the deposit of mud, grease, etc., on top of sand filter prevents proper absorption same must be scraped and removed from basin.



TIGHT VAULT WITHOUT SEATS.

SPECIFICATIONS.

Vault to be of dimensions, shape, and design shown in drawing, and to consist of four sides (AB, BD, DC, and CA) and of a bottom (EF) of concrete, or suitable masonry, lined with a layer of cement mortar, and to be covered with a concrete top shaped as shown, to rest on a wooden platform consisting of a board floor (FFF) laid on joists (VVV).

Bottom of vault (EF) shall be at least 1.50 m. below the ground surface.

Vault to be suitably vented with a cast-iron pipe (P) extending 50 cm. above the eaves of the house. A roof flange shall be provided where pipe extends through roof.

Closet room to be well lighted and ventilated.

For this type of closet no seats are required, but each hole (J) shall be provided with a brass-hinged wooden cover (X).

Top of vault to be provided with a trapdoor (N).

Concrete to be composed of $1\frac{1}{2}$ parts of pure Portland cement, 3 parts clean sand, and 5 parts of gravel or stone broken small enough to pass through a 2-inch ring.

The Portland cement to be of one of the standard brands in general use in Manila, or of a quality equally as good, and which shall be satisfactory to the city engineer and the Bureau of Health.

Sand to be cleaned of all mud, loam, ooze, salt, and other impurities by washing in fresh water.

The cement, sand, and broken stone to be mixed while dry. Enough water shall be used to wet thoroughly the different ingredients.

The concrete to be mixed only in small quantities and each batch to be placed as soon as mixed, and thoroughly tamped.

Mortar to be composed of equal parts of pure Portland cement and clean sand mixed with enough water to convert same into a soft paste. When applied to interior surface, and top of vault to be well worked in with trowels.

CAUTION.—The dimensions of the above vault are estimated to be sufficient for the use of 8 adults, reckoning that same will be cleaned every six months. In case a vault is desired for a larger number, the size shown in drawing should be proportionately increased.

(Statistical tables, showing work accomplished in Manila during the year, appear in the appendix.)

PROPERTY DIVISION.

Although the demands upon this division have increased enormously, the personnel has remained the same as last year. Property which amounted in value to nearly ₱100,000 was received at the main store-room and carefully checked upon its receipt; errors were frequently detected and substantial savings made by the businesslike manner in which the work was carried out. Subsistence supplies to the amount of ₱144,557.07 were purchased and their delivery supervised in Manila or the shipments made when they were for the provinces. The selection of supplies to the amount of ₱22,407.10 was made and their delivery arranged direct from the warehouse of the seller to the division of this Bureau for which they were intended, and when it is remembered that these purchases were largely composed of innumerable small items, like the selection of ligatures, the size of needles, the length of probes, the shape of knives, etc., the painstaking care required will be fully appreciated.

The purchase of supplies through the property division has continued to give most satisfactory results. The experience gained last year, added to the knowledge which has been acquired during the period covered by this report, has enabled the Bureau to save thousands of pesos over what has been paid heretofore for similar supplies. The greatest attention is constantly given to prices current in the local market, and when the cost is favorable, advantage is taken of such circumstance, and it has happened frequently that the knowledge that this Bureau had of low prices was also furnished to other Bureaus, so that the savings which were made not only accrued to the benefit of this Bureau but were participated in by the Government as a whole.

Two million seven hundred and eighty-five thousand four hundred and seventy-five units of vaccine virus were forwarded to the provinces, which were divided into 497 shipments. This work was handled most satisfactorily, and the vaccine reached its destination in better condition and more promptly than has ever been the case heretofore, notwithstanding the fact that more and more inaccessible regions of the Philippines had to be reached during the past year. By keeping a careful supervision over the drug stock on hand, the old stock which was bought years ago has been almost entirely closed out without loss to the Government, and the care which has been exercised in only keeping on hand such drugs as are not likely to spoil and for which there is a constant demand also resulted in a material saving.

Four hundred and thirty-six requisitions were filled and forwarded to the provinces and to hospitals and health stations in Manila. One hundred and seventy-six remedy packages, ranging in value from ₱5 to ₱25, were prepared and disposed of as follows:

Sold to individuals or other Bureaus.....	78
Issued to indigent persons	59
Remaining on hand	39

Much time was devoted to the repair and care of public property and many articles were made serviceable for a number of years longer on account of having received timely attention.

INSPECTION DIVISION.

This division was nominally organized September 29, 1898, but was restricted in its operations until the dry season of 1901, when it was enlarged solely for the purpose of combating a threatened plague epidemic. Upon the appearance of cholera in April, 1902, it was enormously increased by the employment of a large number of emergency inspectors, about 7,000.

The division now consists of 35 district health officers, of whom 5 are on duty in Manila; 7 sanitary inspectors, of which number 6 are on duty in Manila; and 12 assistant sanitary inspectors, all on duty in Manila. The ambulance corps, the municipal pharmacy, and disinfecting corps are also branches of this division. The municipal sanitary inspectors in the provinces are not included in its personnel, though it exercises indirect control over them.

The passage of the Pure Food and Drugs Law and the inspections required by the Sanitary Code in Manila have greatly increased the duties pertaining to this division, which was already charged by the law with making regular inspections of work of municipal boards of health, of the work of all employees of the Bureau of Health, of the cleaning of the sewers, streets, walks, alleys, public squares, and parks; of the collection and disposition of garbage and dead animals, night soil and contents of cesspools, and of the sanitation of houses, factories, mills, schools, prisons, dairies, markets, meat shops, bakeries, public water supplies, public bath houses, wells, cisterns, cemeteries, undertaking establishments, asylums, jails and barracks, poorhouses, theaters, and all public institutions and places of public resort.

From the nature of the duties imposed upon this division, it will be seen that it is a medium of communication between the public and the administrative direction of the Bureau, hence it has been necessary constantly to insist upon the observance of uniform courtesy and forbearance on the part of its employees. The enforcement of health regulations has ever been a source of annoyance to the people, but the success

with which this division has avoided serious complications and embarrassments testifies to what may be accomplished by a policy of courtesy and kindness.

In Manila, the sanitary inspectors' section of this division made 560,168 inspections of houses during the year, and have caused 82,814 house-cleaning orders to be executed. As a result of these inspections, there were also 36,902 yards and 718 cesspools cleaned. Three hundred and twelve samples of food and drinking water were collected and sent to the laboratory for analysis.

The statistics for many other results accomplished will be found in the appendix, but it is impossible to represent the amount of work performed in figures alone, as a large part of it is of such a nature that no record can be made.

During the year there were 5,331 disinfections made. A disinfection may mean simply a disinfection of the premises or it may mean the disinfection of almost everything found upon the premises as well as wearing apparel, cooking utensils, bed clothing; in fact, everything that could be the medium of conveying germs of disease.

THE BOARD OF MEDICAL EXAMINERS.

During the year the board of medical examiners registered 13 doctors of medicine, 6 licentiates of medicine, 27 cirujanos ministrantes, and 2 midwives; making a total of 48. Of this number, 7 doctors of medicine, 5 licentiates of medicine, 22 cirujanos ministrantes, and 2 midwives were registered by examination, and the remainder by reason of having been in the Islands prior to the passage of Act No. 310.

The total receipts of the board were ₱860 and total expenses ₱356.88, leaving a credit balance of ₱503.12 which was covered into the Treasury of the Philippine Islands.

Attention is called to the fact that 27 cirujanos ministrantes or practicantes were registered during the year, while the number of physicians was only 19. A cirujano ministrante is not a physician nor is he a trained nurse and it is unfortunate that the law gives him a legal status. With two medical colleges in the Philippine Islands, the time has certainly come when he can be eliminated from the field of medicine. Therefore it is recommended that Act No. 310 be so amended that the board of medical examiners will not be required to license cirujanos ministrantes, in the near future.

Fewer flagrant violations of the Medical Practice Act have come to notice during this year than in any year since its passage. The board has never been sure of its position with reference to cirujanos ministrantes or undergraduates in medicine. In Spanish times these people acted as assistants to physicians; that is, they acted more or less in the capacity of nurses, not trained nurses because they never had the training. It is believed that it would be better to let those who have already regis-

tered practice as physicians in remote municipalities, and discontinue from now on the title of cirujano ministrante, as it is generally called, or practicante in medicine.

THE BOARD OF DENTAL EXAMINERS.

Nineteen meetings were held during the year and six applicants presented themselves for examination; two certificates were issued to graduates and one to a cirujano ministrante. Among the dentists registered was a graduate of the dental department of the Washington University, St. Louis, who is the first Filipino dentist to graduate from a college in the United States since American occupation. A Filipino member of the board of dental examiners graduated from the University of Pennsylvania before the Spanish-American war and has been practicing continuously in the city of Manila, except during the time he was studying in Paris and other European cities. It is understood that several young Filipinos are studying in American dental colleges and will soon return to the Islands to engage in practice.

The board reports that there have been no violations of the dental law during the year of sufficient importance to necessitate prosecution.

There were collected from all sources ₱80 and expended for all purposes ₱344.

BOARD OF PHARMACEUTICAL EXAMINERS.

This board has held two examinations during the year, as required by law, the first on July 3 at which 17 applicants presented themselves, and the other on January 2 when 20 applicants were present; making in all 37 applicants during the year. Out of this number, only two were successful, a percentage of a little less than 5½. In explanation of why so few of the applicants were successful in the examination, it may be stated that the requirements of the board, so far as practicable, are made to conform with the standard of American pharmacy and that with most of the candidates the practical experience or the theoretical knowledge was deficient. Those who seemed to have the one lacked the other. The members of the board, two of whom are Filipinos, are to be commended for their efforts to elevate the standard of the profession of pharmacy.

The board issued 37 apprentice certificates and 8 temporary certificates, without examination; and collected from all sources the sum of ₱962 and expended for all purposes ₱596, leaving an unexpended balance of ₱366, which has been covered into the Treasury.

EXPENDITURES.

At the close of the last fiscal year the unexpended balance from the appropriation for the previous year's current expenses reverted to the Treasury—in amount ₱125,487.20. The amount available for expenditure for the fiscal year just closed was ₱1,048,000.

The total expenditures authorized from the current appropriation bills was ₱885,719.24, leaving an estimated balance of ₱163,719.24, which will revert to the Treasury.

These figures are perhaps not absolutely accurate because the cost of supplies yet to arrive from the United States and the amounts of the bills contracted during the latter part of the fiscal year are not yet known and can only be estimated.

(Detailed financial statement will be found in the appendix.)

CONCLUSION.

From a sanitary standpoint the year covered by this report has been a successful one, successful not only because it has been practically free from the devastating influence of epidemic diseases but because of the progress that has been made along the lines of real, effective sanitation, and the administration has proven sound from a business standpoint. It is believed that the amount spent this year has produced greater results than any similar amount during any year previous. Lives that have been saved, if measured in terms of commercial value, would reach an enormous amount, but when measured in relation to their value to the body politic, especially when such relation is affected by the conditions of an underpopulated country, the results are beyond human calculation. Heretofore the best efforts of this Bureau were necessarily expended on Manila and municipalities not far removed, but as the work has become more systematized it has become practicable to extend scientific methods of sanitation to the more remote districts. The importance of the work becomes apparent when comparisons are made with near-by Oriental countries. The conditions for the spread of plague are as favorable in the Philippine Islands as they are in many parts of India where it is raging with great severity. The inhabitants of the Philippines are no more immune to cholera than are the inhabitants of Bengal. Why is it that the country is not decimated by devastating epidemics of smallpox as are certain parts of China? The only available explanation, so far as this office knows, is that eternal vigilance, which is the price of success, has been observed.

The newspapers are not yet through praising the results gained by the sanitary methods adopted by the American Government in Havana during the early part of the American-Spanish war. These measures were indeed successful and deserve all the compliments they have received, but it should not be forgotten that they were brought about under very favorable auspices; that the country was under military rule and the orders of the health officer were supported by the prestige of martial law. The Cuban politicians and the opposing press were, for the time, silent; sanitation was the order of the day and no excuses were taken; there were no lawyers to contest in court; no restraining orders and no legal

obstacles. Large sums of money for sanitary purposes were appropriated in Cuba, while in the Philippine Islands only small amounts were available for sanitation. The results here have been brought about on different lines; every effort that has made for progress has been obstructed by meddlesome opposition; and every advance has been sharply contested. Perhaps in the long run it will all be for the best, and the results may be of a more permanent character than if they had been gained with less effort. It has been a campaign of education, patience, and persistence.

Reference to the statistical tables in each successive annual report will show a steady decrease in the dangerous communicable diseases since American occupation. While they show the success that has been achieved, they do not record the hard work, the discouragements, the faithfulness and efficiency of those to whom the credit is due—the employees of this Bureau—therefore it remains for the Director of Health publicly to acknowledge their part in bringing about what he believes to be a successful issue.

Very respectfully,

VICTOR G. HEISER, M. D.,

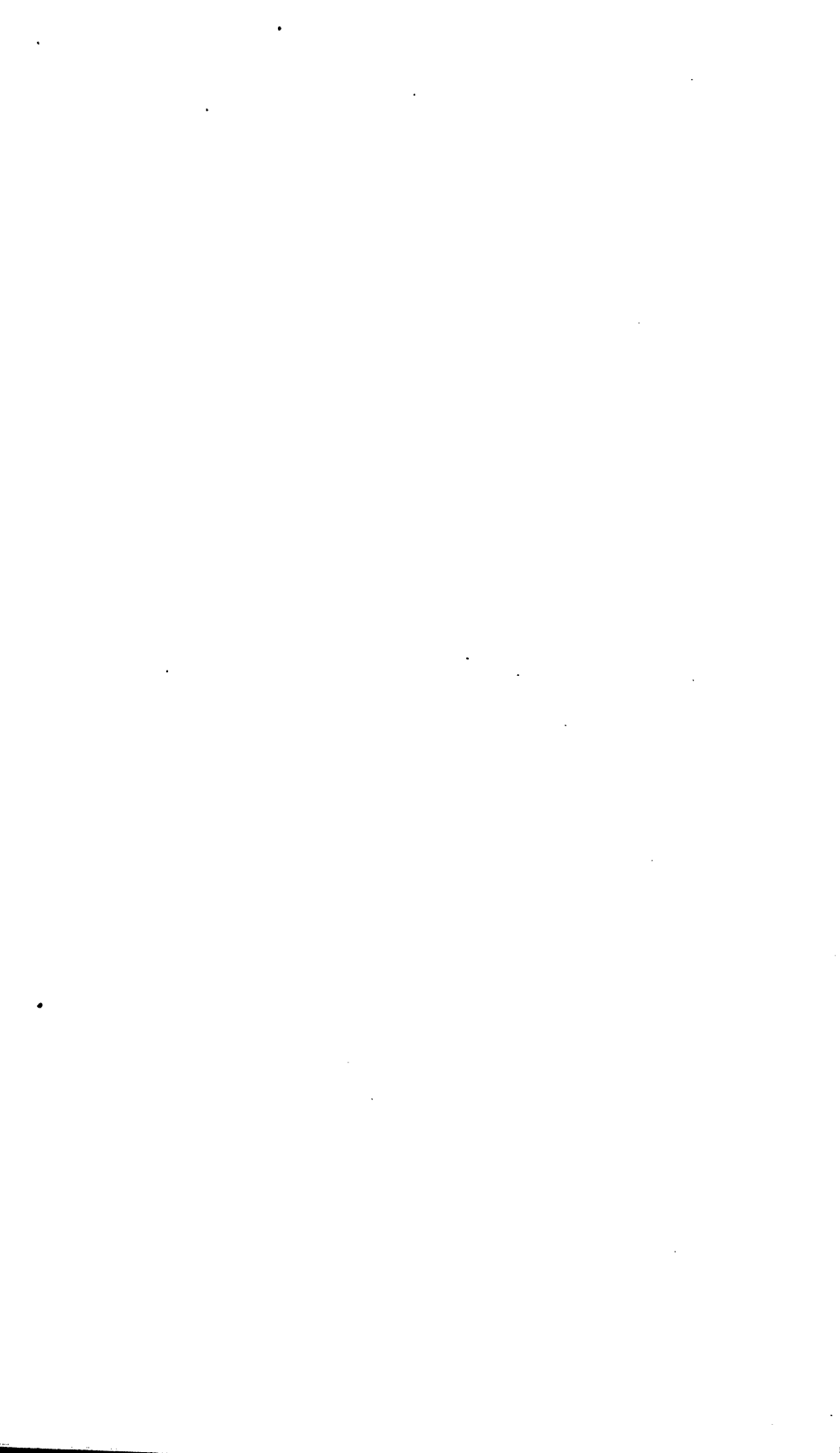
Passed Assistant Surgeon, United States Public Health

and Marine-Hospital Service, Director of Health.

THE SECRETARY OF THE INTERIOR,

Manila, P. I.

APPENDIX.



STATISTICAL TABLES, BUREAU OF HEALTH, JULY 1, 1906, TO JUNE 30, 1907.

GENERAL STATISTICS.

[Unless otherwise stated these statistics are for the fiscal year ended June 30, 1907.]

Population of the city of Manila.

[Health census of 1907.]

Nationality.	Popula- tion.	Nationality.	Popula- tion.
Americans	5,199	Chinese	18,028
Filipinos	196,292	All others	1,148
Spaniards	2,908		
Other Europeans	977	Total	223,542

*Births reported.**

Nationality.	Male.	Female.	Total.	Annual average per 1,000.
Americans	71	56	127	24.42
Filipinos	3,598	3,337	6,935	85.51
Spaniards	16	16	32	11.02
Other Europeans	11	11	22	22.51
Chinese	11	8	19	1.06
All others	1	1	1	0.87
Total and average	3,708	3,428	7,136	81.92

* Incomplete.

Births, by districts.

Health district.	Number of legitimates.			Number of illegitimates.			Grand total.
	Male.	Fe- male.	Total.	Male.	Fe- male.	Total.	
No. 1, Intramuros	410	395	805	6	13	19	824
No. 2, Meisic	902	824	1,726	88	98	186	1,912
No. 4, Sampaloc	649	567	1,216	106	122	228	1,444
No. 5, Tondo	954	859	1,813	110	104	214	2,027
No. 6, Paco	453	411	864	30	85	65	929
Total	3,368	3,056	6,424	340	372	712	7,136

* Incomplete.

Births, by districts, and annual birth rate per 1,000.

Health district.	Popula- tion.	Births.	Annual rate per 1,000.
No. 1, Intramuros	30,649	824	26.88
No. 2, Meisic	82,897	1,912	23.20
No. 4, Sampaloc	35,475	1,444	40.70
No. 5, Tondo	58,855	2,027	37.68
No. 6, Paco	21,166	929	43.89
Total and average	223,542	7,136	81.92

Births, by districts, according to number of children born by mother.

Order in which the child was born.	Number of births in health district—										Total.	
	No. 1.		No. 2.		No. 4.		No. 5.		No. 6.			
	Liv- ing.	Still- born.	Liv- ing.	Still- born.	Liv- ing.	Still- born.	Liv- ing.	Still- born.	Liv- ing.	Still- born.	Liv- ing.	Still- born.
First.....	226	8	552	24	374	20	474	15	217	7	1,843	74
Second.....	160	7	400	8	281	11	376	11	175	3	1,892	40
Third.....	153	11	319	7	232	14	319	4	150	8	1,173	44
Fourth.....	100	5	213	11	177	9	281	6	107	3	878	34
Fifth.....	47	—	134	7	108	4	175	8	80	4	539	23
Sixth.....	42	1	82	7	100	2	96	5	58	1	378	16
Seventh.....	33	1	71	2	53	4	105	11	40	2	308	20
Eighth.....	20	1	48	3	40	3	72	4	31	2	211	13
Ninth.....	16	1	35	3	30	2	53	6	29	—	163	12
Tenth.....	12	—	17	1	14	2	30	6	16	1	89	10
Eleventh.....	6	4	13	1	16	2	20	1	9	2	64	10
Twelfth.....	3	2	16	—	10	—	12	1	7	—	48	3
Thirteenth.....	2	1	4	1	4	—	7	—	3	—	20	2
Fourteenth.....	2	—	4	1	2	1	4	—	6	—	18	2
Fifteenth.....	1	—	1	—	—	—	1	—	1	—	4	—
Sixteenth.....	—	—	3	—	—	—	—	—	—	—	3	—
Seventeenth.....	1	—	—	—	2	—	—	—	—	—	3	—
Nineteenth.....	—	—	—	—	—	1	—	—	—	—	—	1
Twenty-first.....	—	—	—	—	2	—	—	—	—	—	2	—
Total ..	824	42	1,912	76	1,444	75	2,027	78	929	33	7,136	304

Number of deaths and death rate per 1,000 among residents, by nationalities.

Nationality.	Number of deaths.	Annual average per 1,000.	Nationality.	Number of deaths.	Annual average per 1,000.
Americans.....	29	5.59	Chinese.....	329	18.24
Filipinos.....	7,804	39.96	All others.....	22	19.24
Spaniards.....	46	15.84			
Other Europeans.....	21	21.49	Total and average.....	8,251	36.91

A classified report of all deaths occurring in Manila, including transients.

Males.	Number.	Females.	Number.
Married.....	955	Married.....	806
Divorced.....	1	Divorced.....	2
Widowers.....	312	Widows.....	546
Single.....	885	Single.....	240
Boys.....	2,585	Girls.....	2,110
Condition not stated.....	96	Condition not stated.....	83
Total.....	4,834		3,737
Grand total.....			8,571

Stillbirths, 310.

Number of deaths with medical attendance.....	4,865
Number of deaths without medical attendance.....	3,706
Total.....	8,571

Deaths, by age, including transients.

Age.	Number.	Age.	Number.
Under 30 days.....	891	40 years to 50 years.....	530
30 days to 1 year.....	2,167	50 years to 60 years.....	397
1 year to 2 years.....	677	60 years to 70 years.....	234
2 years to 5 years.....	745	70 years to 80 years.....	217
5 years to 10 years.....	212	80 years to 90 years.....	122
10 years to 15 years.....	102	90 years to 100 years.....	49
15 years to 20 years.....	344	Over 100 years.....	36
20 years to 25 years.....	442	Unknown.....	19
25 years to 30 years.....	536		
30 years to 40 years.....	791	Total.....	8,571

Deaths, by districts, including transients.

Health district.	Popula- tion.	Deaths.	Annual rate per 1,000.
No. 1, Intramuros.....	30,649	1,152	37.58
No. 2, Meisic.....	82,397	2,269	27.53
No. 4, Sampaloc.....	35,475	1,424	40.14
No. 5, Tondo.....	53,855	2,982	54.44
No. 6, Paco.....	21,166	794	37.51
Total and average.....	223,542	8,571	38.34

Comparative mortality from January 1, 1901, to June 30, 1907.

Month.	1901.		1902.		1903.		1904.	
	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.
January.....	753	*36.25	760	*36.58	602	*28.98	796	*42.64
February.....	689	*36.72	706	*37.63	511	*27.23	709	*40.59
March.....	885	*42.66	770	*37.06	539	*25.94	751	*40.23
April.....	886	*44.07	1,327	*66.01	549	*27.31	748	*41.40
May.....	903	*43.47	1,688	*81.26	770	*37.06	766	*41.08
June.....	621	*30.89	1,418	*70.54	592	*29.45	800	*44.28
July.....	608	*29.27	2,223	*107.02	620	*33.21	866	*46.89
August.....	702	*33.79	1,712	*82.42	862	*46.17	1,082	*55.28
September.....	767	*38.15	1,132	*56.31	1,228	*67.97	1,064	*58.89
October.....	855	*41.16	927	*44.62	1,217	*65.19	1,018	*54.88
November.....	848	*42.18	1,085	*51.48	974	*63.91	957	*52.97
December.....	858	*41.30	753	*36.25	894	*47.89	794	*42.53

Month.	1905.		1906.		1907.	
	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.
January.....	685	*36.69	737	*39.47	632	*33.31
February.....	608	*36.05	595	*35.28	478	*27.59
March.....	563	*30.15	600	*32.13	464	*24.45
April.....	530	*29.32	555	*30.27	416	*22.65
May.....	526	*28.16	600	*32.13	462	*24.85
June.....	593	*32.81	693	*36.72	402	*21.89
July.....	747	*40	1,451	*77.72	-----	-----
August.....	841	*45.03	1,182	*63.81	-----	-----
September.....	1,013	*56.06	835	*46.22	-----	-----
October.....	850	*45.51	684	*36.64	-----	-----
November.....	944	*52.24	653	*36.14	-----	-----
December.....	841	*45.03	597	*31.98	-----	-----

* Death rate computed on population of 244,732 (Health Department's census).

* Death rate computed on population of 219,941 (official census, 1903).

* Death rate computed on population of 223,542 (Health census of 1907).

Mortality compared with same period of previous years.

Year.	First quarter.		Second quarter.		Third quarter.		Fourth quarter.	
	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.
1901.....	2,327	42.98	2,410	43.97	2,077	47.49	2,561	46.22
1902.....	2,236	41.25	4,483	80.89	5,067	91.46	2,715	29.00
1903.....	1,652	30.48	1,911	34.87	2,710	48.91	3,085	55.66
1904.....	2,256	41.16	2,314	42.22	2,962	58.46	2,789	49.98
1905.....	1,856	34.24	1,649	30.09	2,601	46.94	2,635	47.56
1906.....	1,982	35.64	1,848	33.72	3,468	62.59	1,964	34.90
1907.....	1,569	28.48	1,280	22.98	-----	-----	-----	-----

Number of deaths, with causes, occurring among residents in the city of Manila.

[Stillbirths not included.]

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
<i>I. General diseases.</i>									
1. Typhoid fever (abdominal typhus)	1		4		31	22			58
3. Relapsing fever			1		1				2
4. Intermittent fever and malarial cachexia			3		99	38	14		154
4a. Malarial cachexia					10	8	1		19
5. Smallpox					1				1
8. Whooping cough					1	1			2
9. Diphtheria and croup					4	4			8
10. Influenza					6	8			22
12. Asiatic cholera	4		5	2	297	258	20		586
14. Dysentery	2		4		173	146	18	1	344
17. Leprosy			1		40	20			61
18. Erysipelas					2				2
19. Other epidemic diseases (beri-beri)			1		190	166	45	1	408
20. Purulent infection and septicæmia	2				20	12	6		40
22. Malignant pustule						2			2
23. Rabies					1				1
26. Tuberculosis of the larynx			1		14	3			18
27. Tuberculosis of the lungs			10	3	578	468	89		1,148
28. Tuberculosis of the meninges				1	26	17			44
29. Abdominal tuberculosis				1	29	15			45
31. Cold abscess and abscess by congestion					1				1
32. White swelling					1				1
33. Tuberculosis of other organs				5	5	2			7
34. General tuberculosis			1		17	5			23
35. Scrofula					4	5			9
36. Syphilis				1	5	1	3		10
39. Cancer and other malignant tumors of the buccal cavity					3	10			13
40. Cancer and other malignant tumors of the stomach and liver				1	5	5			11
41. Cancer and other malignant tumors of the peritoneum, intestines, and rectum					3	1			4
42. Cancer and other malignant tumors of the female genital organs				1		8			9
43. Cancer and other malignant tumors of the breast				1		3			4
44. Cancer and other malignant tumors of the skin					1				1
45. Cancer and other malignant tumors of other organs or of organs not specified					6	4			10
46. Other tumors (tumors of the female genital organs excepted)					1				1
47. Acute articular rheumatism					6	3			9
48. Chronic rheumatism and gout					20	14			34
49. Scurvy					3	3			6
50. Diabetes			1			3			4
51. Exophthalmic goiter					1		1		2
52. Addison's disease			1						1
53. Leukæmia						1			1
54. Anæmia chlorosis			1		5	8	1		15
55. Other general diseases					1				1
56. Acute and chronic alcoholism	1		1		1				3
59. Other chronic poisonings							3		3
<i>II. Diseases of the nervous system and of the organs of special sense.</i>									
60. Encephalitis					2	2			4
61. Simple meningitis			3		223	210	1		437
62. Progressive locomotor ataxia			1		1				2
63. Other diseases of the spinal cord					8				8
64. Congestion and hemorrhage of the brain			2		61	71	4		138
65. Softening of the brain					3	6			9
66. Paralysis without specified cause					2	2	2		6
67. General paralysis					4	12			16
68. Other forms of mental alienation					3	1	1		5
69. Epilepsy					1	2	1		4
70. Convulsions (nonpuerperal, 5 years and over)					1				1
71. Convulsions (under 5 years)					748	551	9	7	1,315
72. Tetanus					40	52	3		95
73. Chorea									
74. Other diseases of the nervous system	1		1		1	2			5
75. Diseases of the eye and its adnexa					1				1
76. Diseases of the ear					1	1			2

Number of deaths, with causes, occurring among residents, etc.—Continued.

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
III. Diseases of the circulatory system.									
77. Pericarditis					8	1			4
78. Acute endocarditis					6	7			13
79. Organic diseases of the heart			6		45	44	26		121
80. Angina pectoris					22	10	2		34
81. Diseases of the arteries (atheroma, aneurism, etc.)			4	2	11	5			22
82. Embolism and thrombosis				1	3	1			5
83. Diseases of the veins (varices, hemorrhoids, phlebitis, etc.)						1			1
85. Hemorrhages					1	1			2
IV. Diseases of the respiratory system.									
88. Diseases of the larynx					2				2
89. Diseases of the thyroid body									
90. Acute bronchitis	1				214	173	2		390
91. Chronic bronchitis					143	140	16		299
92. Broncho-pneumonia		1			17	16			34
93. Pneumonia			2		19	8	1		30
94. Pleurisy					3	2			5
95. Congestion and apoplexy of the lungs					8	9	2		19
96. Gangrene of the lungs						1			1
97. Asthma					9	14	2		25
98. Pulmonary emphysema						1			1
99. Other diseases of the respiratory system (phthisis excepted)						2			2
V. Diseases of the digestive system.									
100. Diseases of the mouth and its adnexa					1	1			2
101. Diseases of the pharynx					1	1	1		3
103. Ulcer of the stomach				1	2	1	1		5
104. Other diseases of the stomach (cancer excepted)			1		11	3	2		17
105. Diarrhea and enteritis (under 2 years)	2	1		1	141	114			259
105a. Chronic diarrhea and enteritis (under 2 years)									
106. Diarrhea and enteritis (2 years and over)					116	108			224
107. Intestinal parasites				1	182	169	1		353
108. Hernias and intestinal obstructions	1				6	1			8
109. Other diseases of the intestines					14	7	2		24
110. Acute yellow atrophy of the liver						1			1
112. Cirrhosis of the liver					1	1			2
113. Biliary calculi					7	7	1		15
114. Other diseases of the liver	1	1	2		2	5			7
115. Diseases of the spleen					7	3	1		15
116. Simple peritonitis (nonpuerperal)			1				1		1
117. Other diseases of the digestive system (cancer and tuberculosis excepted)			1		2	1			4
118. Appendicitis and abscess of the iliac fossa									1
			1		12	3			16
VI. Diseases of the genito-urinary system and its adnexa.									
119. Acute nephritis			2		23	16	2		43
120. Bright's disease	2		1		41	52	10		106
121. Other diseases of the kidneys and their adnexa					2				2
122. Calculi of the urinary tract					2				2
123. Diseases of the bladder					1	1			2
125. Diseases of the prostate					1				1
126. Nonvenereal diseases of the male genital organs					2				2
127. Metritis						2			2
128. Uterine hemorrhage (nonpuerperal)						6			6
131. Cysts and other tumors of the ovary						1			1
132. Other diseases of the female genital organs						1			1
VII. The puerperal state.									
134. Accidents of pregnancy						2			2
135. Puerperal hemorrhage						29			29
136. Other accidents of labor						6			6
137. Puerperal septicemia						45		1	46
138. Puerperal albuminuria and convulsions						11			11
140. Other puerperal accidents—sudden death						1			1

Number of deaths, with causes, occurring among residents, etc.—Continued.

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
VIII. Diseases of the skin and cellular tissue.									
142. Gangrene			1		2				3
144. Acute abscess, phlegmon					3				3
145. Other diseases of the skin and its adnexa					1				1
IX. Diseases of the organs of locomotion.									
146. Nontuberculous diseases of the bones					7	4			11
X. Malformations.									
150. Congenital malformations (stillbirths excepted)		1			5				6
XI. Early infancy.									
151. Congenital debility, icterus and sclerema	1				224	182	1		408
152. Other diseases peculiar to early infancy					8	7	1		16
153. Lack of care					8	8			16
XII. Old age.									
154. Senile debility				3	74	133	1		211
XIII. External causes.									
155. Suicide by poison						1	1	1	3
157. Suicide by hanging or strangulation						1			1
160. Suicide by cutting instruments							1		1
164. Fractures					7	1			8
166. Other accidental traumatisms	3				22	6	3		34
167. Burns and scalds						4			4
172. Accidental drowning					6	1	4		11
173. Inanition (starvation)			1		2	4			7
174. Absorption of deleterious gases (nonsuicidal)						1			1
175. Other acute poisonings	1		1		2				4
176. Other external violence	1		1		18	1			21
XIV. Ill-defined diseases.									
177. Dropsy						1			1
179. Causes of death unspecified or ill defined	1		1		36	18	3		59
Total	25	4	68	21	4,220	3,584	318	11	8,251
Grand total	29		89		7,804		329		8,251

Number of deaths, with causes, occurring among transients in the city of Manila.

[Stillbirths not included in computing death rate of the city.]

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
<i>I. General diseases.</i>									
1. Typhoid fever (abdominal typhus)			2		6				8
4. Intermittent fever and malarial cachexia.	1	1			8	3	1		14
4a. Malarial cachexia.					3	1			4
9. Diphtheria and croup					1				1
10. Influenza					1	1	3		5
12. Asiatic cholera	5		1		21	12			39
14. Dysentery			1		10	1			12

Number of deaths, with causes, occurring among transients, etc.—Continued.

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
<i>I. General diseases—Continued.</i>									
19. Other epidemic diseases (beri-beri)					9	10	1		20
20. Purulent infection and septicæmia	1				2				3
26. Tuberculosis of larynx						1			1
27. Tuberculosis of the lungs	1		1		24	12	1		39
28. Tuberculosis of the meninges					1	2			3
31. Cold abscess and abscess by congestion			1						1
34. General tuberculosis	1				2	1			4
40. Cancer and other malignant tumors of the stomach and liver			1						1
41. Cancer and other malignant tumors of the peritoneum, intestines, and rectum	1				1				2
42. Cancer and other malignant tumors of the female genital organs						1			1
45. Cancer and other malignant tumors of other organs or of organs not specified					1				1
47. Acute articular rheumatism		1							1
49. Scurvy					1				1
54. Anæmia, chlorosis			1						1
<i>II. Diseases of the nervous system and of the organs of special sense.</i>									
61. Simple meningitis					3	2			5
64. Congestion and hemorrhage of the brain			1		3	2			6
71. Convulsions (under 5 years)					9	17			26
72. Tetanus					2				2
74. Other diseases of the nervous system					1				1
<i>III. Diseases of the circulatory system.</i>									
78. Acute endocarditis					4	2			6
79. Organic diseases of the heart			1		3	2			6
80. Angina pectoris					2				2
81. Diseases of the arteries (atheroma, aneurism, etc.)	1								1
85. Hemorrhages					1				1
<i>IV. Diseases of the respiratory system.</i>									
90. Acute bronchitis					2	8			10
91. Chronic bronchitis					4		1		5
92. Broncho-pneumonia						2			2
93. Pneumonia					1	2			3
95. Congestion and apoplexy of the lungs					1				1
97. Asthma		1							1
<i>V. Diseases of the digestive system.</i>									
103. Ulcer of the stomach						1			1
104. Other diseases of the stomach (cancer excepted)					1	1			2
105. Diarrhea and enteritis (under 2 years)	1				4	8			8
105a. Chronic diarrhea and enteritis (under 2 years)					3	2			5
106. Diarrhea and enteritis (2 years and over)	1			1	3	9		1	15
108. Hernias and intestinal obstructions					2				2
112. Cirrhosis of the liver					1				1
114. Other diseases of the liver	3					1			4
116. Simple peritonitis (nonpuerperal)						1			1
118. Appendicitis and abscess of the iliac fossa						1			1
<i>VI. Diseases of the genito-urinary system and its adnexa.</i>									
119. Acute nephritis	1					3			4
120. Bright's disease	2				1	2	1		6
121. Other diseases of the kidneys and their adnexa	1								1
<i>VII. The puerperal state.</i>									
135. Puerperal hemorrhage						1			1
137. Puerperal septicæmia						1			1

Number of deaths, with causes, occurring among transients, etc.—Continued.

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
<i>VIII. Diseases of the skin and cellular tissue.</i>									
142. Gangrene.....					1				1
<i>XI. Early infancy.</i>									
151. Congenital debility, icterus and sclerema.....	1				4	1			6
158. Lack of care.....						1			1
<i>XII. Old age.</i>									
154. Senile debility.....						1			1
<i>XIII. External causes.</i>									
157. Suicide by hanging or strangulation.....					1		1		2
164. Fractures.....	1				1				2
166. Other accidental traumatism.....	1		1		3	1			6
167. Burns and scalds.....						1			1
172. Accidental drowning.....			2		1				3
<i>XIV. Ill-defined diseases.</i>									
179. Causes of death unspecified or ill defined.....		1			3				4
Total.....	23	4	13	1	156	113	9	1	320
Grand total.....	27		14		269		10		320

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 10 to 15 years.						From 15 to 20 years.						From 20 to 25 years.						From 25 to 30 years.					
	Amer- icans.		Filipi- nos.		Chi- nese.		For- eign- ers.		Amer- icans.		Filipi- nos.		Chi- nese.		For- eign- ers.		Amer- icans.		Filipi- nos.		Chi- nese.		For- eign- ers.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
<i>VII. The puerperal state.</i>																								
134. Accidents of pregnancy																								
135. Puerperal hemorrhage																								
136. Other accidents of labor						5																		
137. Puerperal septicemia						5																		
138. Puerperal albuminuria and convulsions						2																		
140. Other puerperal accidents—sudden death																								
<i>VIII. Diseases of the skin and cellular tissue.</i>																								
142. Gangrene																1								1
<i>XIII. External causes.</i>																								
155. Suicide by poison																								
157. Suicide by hanging or strangulation																								
160. Suicide by cutting instruments																								
164. Fractures																								
166. Other accidental traumas																								
167. Burns and scalds																								
172. Accidental drowning																								
175. Other acute poisonings																								
176. Other external violence																								
<i>XIV. Ill-defined diseases.</i>																								
179. Causes of death unspecified or ill defined																								
Total			54	47	1	2	3	219	116	3	1	2	4	2	224	202	8	7	6	3	226	246	48	1
Grand total			101		1	2	3	335	4	2	2	6	426	8	7	9	471	49						

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 50 upward.						Unknown.						Total.						Grand total.							
	Amer-icans.		For- eigners.		Filipinos.		Chi- nese.		Amer- icans.		For- eigners.		Filipinos.		Chi- nese.		Amer- icans.			For- eigners.		Filipinos.		Chi- nese.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.		M.	F.	M.	F.	M.	F.	
<i>XIII. External causes.</i>																										
155. Suicide by poison																										
157. Suicide by hanging or strangulation																										
159. Suicide by cutting instruments																										
160. Executions																										
161. Accidents																										
162. Other accidental traumas																										
166. Burns and scalds																										
167. Other accidents																										
172. Accidental drowning																										
173. Inanition (starvation)																										
174. Absorption of deleterious gases (non-suicidal)																										
175. Other acute poisonings																										
176. Other external violence																										
<i>XIV. Ill-defined diseases.</i>																										
177. Dropsy																										
179. Causes of death unspecified or ill defined																										
Total																										
Grand total																										

Deaths, by occupations.

Occupation.	Number.		Occupation.	Number.	
	Male.	Fe- male.		Male.	Fe- male.
Professional:			Manufacturing and mechanical industry—Continued.		
Architects, artists, teachers of art, etc	4	1	Boot, shoe, and slipper makers	11	
Clergymen, priests, nuns, etc	12	7	Butchers	1	8
Engineers and surveyors	1		Carpenters and joiners	80	
Journalists	2		Cigar makers and tobacco workers	25	54
Lawyers	6		Clock and watch repairers, jewelers, etc	24	1
Musicians and teachers of music	11	1	Compositors, printers, etc	9	2
Nurses and midwives	1		Embroiderers (gold, silk, etc.)	2	19
Physicians and surgeons	3		Engineers and firemen (not locomotive)	30	
Teachers (school)	7	1	Hat and cap makers	3	
Others of this class	2		Leather workers	4	
Clerical and official:			Machinists	4	
Bookkeepers, clerks, and copyists	157		Masons (brick and stone)	1	
Bankers, brokers, and officials of companies	6		Mill and factory operatives (textiles)		1
Collectors, auctioneers, and agents	2		Painters, glaziers, and varnishers	23	
Stenographers and typewriters	2		Tailors, dressmakers, and seamstresses	50	141
Telegraph and telephone operators	2	1	Tinners and tinware makers	5	
Others of this class	2		Others of this class	34	4
Mercantile and trading:			Agriculture, transportation, and other outdoor:		
Apothecaries, pharmacists, etc	4		Boatmen and canalmen	41	
Commercial travelers	8	3	Draymen, drivers, and teamsters	76	
Merchants and dealers	53	1	Farmers, planters, and farm laborers	44	1
Hucksters and peddlers	2	1	Gardeners, florists, nurserymen, etc	10	1
Shopkeepers	15	71	Livery-stable keepers and hostlers	6	
Public entertainment:			Lumbermen and raftsmen	2	
Hotel and boarding-house keepers	1		Miners and quarrymen	2	
Saloon keepers, liquor dealers, bartenders, and restaurant keepers	2		Sailors, pilots, fishermen, and oystermen	100	3
Personal service, police and military:			Steam railroad employees	1	
Barbers and hairdressers	20		Stock raisers, herders, and drovers	4	1
Janitors and sextons	15		Others of this class	5	
Policemen, watchmen, and detectives	14		All other occupations	50	15
Soldiers, sailors, and marines	5				
Others of this class	2				
Laboring and servants:					
Laborers (not agricultural)	646	11			
Laundrerers	15	153			
Servants	74	28			
Manufacturing and mechanical industry:					
Bakers and confectioners	8				
Blacksmiths	13				
			Total	1,764	525
			Grand total		2,289

Report of sick and wounded poor attended by municipal physicians.

Health districts and physicians.	Americans, adults male.	Foreigners.				Filipinos.			
		Adults.		Children.		Adults.		Children.	
		Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.
No. 1, Intramuros, Dr. V. Cavanna	15	35	4	3	3	864	989	335	255
No. 2, Meisic, Drs. F. Herrera and C. Reyes	15	2				436	318	167	109
No. 4, Sampaloc, Dr. F. Castañeda						537	812	552	507
No. 5, Tondo, Drs. V. Pantoja and P. Gabriel	1	2				663	508	217	161
No. 6, Paco, Dr. J. B. Cabarrús						248	257	132	122
Dr. Tee Han Kee						18	18	1	
Total	31	41	4	3	3	2,766	2,892	1,404	1,154

Report of sick and wounded poor attended by municipal physicians—Continued.

Health districts and physicians.	Chinese.				Total.	Cured.		Deaths.		Num-ber of visits.
	Adults.		Children.			Male.	Fe-male.	Male.	Fe-male.	
	Male.	Fe-male.	Male.	Fe-male.						
No. 1, Intramuros, Dr. V. Cavanna	-----	-----	-----	-----	2, 503	742	712	25	42	9, 377
No. 2, Melsic, Drs. F. Herrera and C. Reyes	11	-----	-----	-----	1, 053	433	275	17	16	3, 623
No. 4, Sampaloc, Dr. F. Castañeda	-----	-----	-----	-----	2, 408	333	364	128	99	3, 784
No. 5, Tondo, Drs. V. Pantoja and P. Gabriel	6	-----	-----	-----	1, 558	479	351	72	55	4, 225
No. 6, Paco, Dr. J. B. Cabarrús	2	-----	-----	-----	763	209	196	38	36	2, 208
Dr. Tee Han Kee	226	6	4	3	276	95	6	12	1	1, 519
Total	245	6	4	3	8, 556	2, 291	1, 904	292	249	24, 786

Report of prescriptions filled at the municipal dispensary.

Health districts.	Americans.				Foreigners, adults.	Filipinos.				Chinese, adults male.	Total.	
	Adults.		Children.			Adults.		Children.				
	Male.	Fe-male.	Male.	Fe-male.		Male.	Fe-male.	Male.	Fe-male.			
No. 1, Intramuros	1,834	508	2	2	146	16	3,379	2,761	836	583	2	10,069
No. 2, Meisic	57				2		1,857	1,176	518	285	49	3,944
No. 4, Sampaloc	1						2,127	1,438	1,507	825		5,898
No. 5, Tondo	7						1,407	1,203	485	308		3,410
No. 6, Paco	100	2			3		480	504	353	345	11	1,798
Total	1,999	510	2	2	151	16	9,250	7,082	3,699	2,346	62	25,119

Permits issued for the disposition of dead bodies.

Disposition.	Number.	Disposition.	Number.
Buried:		Buried—Continued.	
Norte cemetery (3 fetuses)	5,203	Chinese cemetery	285
Paco cemetery (1 fetus)	322	San Pedro Macati cemetery	11
Santa Cruz (niches) (1 fetus)	115	Tondo cemetery (niches)	1
Binondo cemetery	333	Otherwise disposed of:	
Balibalic cemetery (1 fetus)	1,105	Embalmed for shipment to	
Maytubig cemetery (1 fetus)	324	United States	10
Malate cemetery	498	Cremated	18
Pandacan cemetery, Roman Catholic	59	Transferred to provinces	21
Pandacan cemetery, Filipino Church	169	Preserved in alcohol (fetuses)	3
Santa Ana cemetery	317	Total	8,894

NOTE.—This total includes 11 dead bodies brought from the provinces, 1 brought from the United States, 1 remains unearthened and 310 fetuses from Manila. The 7 fetuses appearing in parentheses were buried together with their mothers.

Disinterments.

Cemetery.	Number.	Cemetery.	Number.	Cemetery.	Number.
Paco	110	Balibalic	11	Dilao	1
Norte	2	Tondo	4	Pandacan (Roman)	1
Santa Cruz	47	Chinese	86	Total	296
Binondo	4	Loma	5		
Malate	24	American National	1		

Report of crematories.

Disposition.	Cremato- ries.		To- tal.	Disposition.	Cremato- ries.		To- tal.
	Palo- mar.	Paco.			Palo- mar.	Paco.	
Animals cremated:				Animals cremated—Cont'd.			
American horses	77	24	121	Rabbits	87		87
American mules	30	1	31	Rats	115		115
Australian horses	32	5	37	Deer	6		6
English horses	1		1	Total	7,542	1,213	8,755
Chinese mules		1	1				
Native ponies	328	48	376	Loads cremated:			
Carabaos	188	27	215	Garbage	3,656	960	4,606
Cows	349	54	403	Trade refuse	704	41	745
Dogs	2,024	329	2,353	Organic matter	568	46	609
Cats	126		126	Slops	1,068	172	1,240
Goats	75	9	84	Market refuse	175	43	218
Monkeys	46	3	49	Beach refuse	214	14	228
Fowls	2,920	632	3,552	Condemned goods	267	9	276
Domestic birds	34		34	Oysters		2	2
Pigs	871	75	946	Total	6,647	1,277	7,924
Calves	168	5	173				
Sheep	17		17				
Guinea pigs	78		78				

General inspection of houses, premises, vaults, etc., with improvements ordered, disinfected, whitewashed, cleaned, etc., by district health officers, sanitary inspectors, and assistant sanitary inspectors.

1. Inspections of houses by the sanitary inspectors	82,517
2. Reinspections of houses for verification of work ordered	2,913
3. Inspections of houses by assistant sanitary inspectors and sanitary policemen	424,238
4. Reinspections of houses by assistant sanitary inspectors and sanitary policemen	100,500
5. Houses ordered cleaned (written)	57
6. Houses ordered cleaned (verbal)	85,598
7. Houses cleaned	82,814
8. Houses ordered whitewashed and painted	7
9. Houses whitewashed and painted	8
10. Number of houses disinfected	273
11. Number of houses recommended condemned and removed	0
12. Number of houses condemned and removed	0
13. Number of localities where "squatters" are located	621
14. Number of samples of water, foods, etc., sent to laboratory	812
15. Number of reports for same	291
16. Number of fire plugs opened or closed for sanitary purposes	0
17. Number of hydrants recommended reopened	0
18. Number of houses where garbage has not been removed for two days	2,089
19. Number of persons reported sick to municipal physicians	5,391
20. Cesspools and vaults ordered cleaned	1,026
21. Cesspools cleaned	718
22. Yards ordered cleaned	38,799
23. Yards cleaned	36,902
24. Yards ordered repaired (repaved, etc.)	4
25. Yards repaired	3
26. Number of cholera cases reported by sanitary inspectors	139
27. Number of cholera cases found alive	260
28. Number of cases of cholera found dead	457
29. Number of orders issued during the fiscal year	95
30. Number of orders complied with during the fiscal year	92
31. Number of orders awaiting action	111
32. Number of orders pending in court	3
33. Average number of food tiendas in the districts	2,989
34. Number of persons convicted for violation of food prohibition orders	1,167
35. Average number of regular inspectors on duty	16
36. Average number of regular emergency inspectors on duty	22
37. Number of leprosy cases sent to San Lazaro Hospital	46
38. Number of plague cases reported	0
39. Number of smallpox cases reported	61
40. Average number of houses in which traps are set	112
41. Average number of houses in which bane is placed	23
42. Average number of traps set	136
43. Average number of places in which ratsbane is placed	38
44. Rats caught by rat catchers	67
45. Rats caught by traps	202
46. Rats caught by poison	11
47. Rats purchased	1
48. Average number of rat catchers employed	0

Report of disinfections.

Causes for disinfections.	Number of disinfections.	Number of contacts.	Causes for disinfections.	Number of disinfections.	Number of contacts.
Cholera	1,334	8,489	Rinderpest	23	
Suspected cholera	86	470	Typhoid fever	16	52
Measles	6	26	Surra	1	
Tetanus	2	9	Chickenpox	1	3
Smallpox	171	350	Cerebro-spinal meningitis	1	
Glanders	17	3	Suspected smallpox	1	8
Leprosy	24	112	Suspected diphtheria	1	
Beriberi	2		Diarrhea	1	
Foot-and-mouth disease	2		Unknown	3	29
Tuberculosis	286	20	Exhumations	235	
Pneumonia	1		Insanitary condition	3,110	22
Undetermined	5	21			
Diphtheria	2		Total	5,331	9,609

Report of operation of the pail-conserrancy system.

PAIL COLLECTIONS.

Where cleaned.	Number of installations.	Number of installations in use.	Pails in use.	Pails cleaned.
Private houses	3,205	1,399	1,763	594,931
Public buildings	99	49	310	57,383
Midden sheds	70	68	1,553	386,342
Military buildings	22	9	39	14,527
Mariquina	136	125	150	54,989
Total	3,532	1,650	3,815	108,072

VAULTS CLEANED.

Where cleaned.	Cleaned by odorless excavators.		
	Vaults cleaned.	Loads removed.	Gallons removed.
Private houses	1,786	2,771	1,385,500
Public buildings	119	1,742	871,000
Military buildings	16	121	60,500
Total	1,921	4,634	2,317,700

Report of action taken on licenses.

Business for which license is desired.	License applications approved.	License applications disapproved.	Total applications acted upon.
Liquor:			
First-class bars	38		38
Second-class bars	39		39
First-class bars and restaurants	28		28
Second-class bars and restaurants	6		6
Wholesale	5		5
Groceries	17		17
Theaters	2		2
Hotels	13		13
Restaurants	646	49	695
Boarding houses	14		14
Distilleries	6		6
Native wines	1,125	35	1,160

Report of action taken on licenses—Continued.

Business for which license is desired.	License applications approved.	License applications disapproved.	Total applications acted upon.
Breweries	1		1
Auctioneers	4		4
Clubs	26	1	27
Lodging houses	9		9
Cooked foods, vegetables, and soft drinks	2,080	123	2,203
Bakeries	13		13
Manufactories	200	10	210
Livery stables	44		44
Barber shops	804	6	810
Laundries	34	1	35
Dry fish	33		33
Tattoos	3	1	4
Pawnbrokers and junk shops	11		11
Dance halls	16		16
Theaters	8		8
Billiard and pool tables	64	2	66
Groceries	18	1	19
Carrillos	8		8
Dying and cleaning clothes	7	1	8
Embalming	1		1
Bill posting	3		3
Cinematographs	2		2
Slot machines	2		2
Stock yards	1		1
Foundries	1		1
Ferryboats	4		4
Plumbing	1		1
Collecting and mercantile agency	1		1
Shooting galleries	1		1
Bowling alley	1		1
Ice cream	1		1
Total	4,841	230	5,071

Report of school inspections, public schools, city of Manila, made during first quarter of 1907.

	High School.				Sampaloc School.				Meisic School.			
	Boys (226).	Girls (56).	Total (282).	Percentage.	Boys (148).	Girls (60).	Total (208).	Percentage.	Boys (191). ¹	Girls (56).	Total (247). ¹	Percentage.
Examination of the eye:												
Myopia—												
Right eye	28	10	38	13	3		3	1	7	3	10	4
Left eye	27	4	31	10	3		3	1	8	3	11	4
Both eyes	28	14	42	14	24	12	36	7	26	7	33	12
Astigmatism—												
Right eye	18	4	22	7	12	8	20	9	13	4	17	6
Left eye	28	2	30	10	4	2	6	2	26	11	37	14
Both eyes	94	20	114	40	78	36	114	54	74	13	87	35
Defects of the cornea	3		3	1	1		1		5		5	2
Conjunctivitis	6	2	8	2	5		5	2	3		3	1
Epiphora	3		3	1								
Strabismus	1		1									
Examination of the ear:												
Right ear defective	11	1	12	4	2	2	4	1	5	2	7	2
Left ear defective	12		12	4	7	1	8	3	1	2	3	1
Both defective	13	1	14	4	4	2	6	2	4		4	1
Examination of the mouth and pharynx:												
Tonsillitis	4		4	1	63	23	86	41	69	17	86	35
Hoarseness	2	2	4	1					2		2	
Gingivitis					1		1					
Sore tongue									2	1	3	1

¹ Of this total 3 boys are of Chinese nationality.

Report of school inspections, public schools, city of Manila, etc.—Continued.

	High School.				Sampaloc School.				Melsic School.			
	Boys (226).	Girls (56).	Total (282).	Percentage.	Boys (148).	Girls (60).	Total (208).	Percentage.	Boys (191).	Girls (56).	Total (247).	Percentage.
Examination of the skin:												
Acne	4		4	1	21	2	23	11	29	4	33	12
Pinta					22	2	24	11	5		5	2
Hemorrhages:												
Hemoptysis	9		9	3		22	22	10		1	1	
Epistaxis	1		1									
Deformities:												
Scoliosis					1		1		3		3	1
Hare lip	1		1									
Other	1	2	3	1	2	1	3	1				
Diseases:												
Edema of feet	1		1									
Palpitation of the heart	7	1	8	2								
Nervousness	2		2						1	1	2	
Anemia	12	1	13	4	56	32	88	32	51	23	74	29
Angina pectoris					1		1					
Rheumatism					1		1					
Chronic constipation					1		1					
Smallpox pitted	90	19	109	38	54		54	25	63	23	86	35
Tuberculosis					1		1					
	Paco School.				Business School.				Intramuros School.			
	Boys (0).	Girls (36).	Total (36).	Percentage.	Boys (248).	Girls (13).	Total (261).	Percentage.	Boys (108).	Girls (44).	Total (152).	Percentage.
Examination of the eye:												
Myopia—												
Right eye		1	1	2					1		1	
Left eye					2	1	3	1	2		2	1
Both eyes		15	15	41	53	2	55	21	38	17	55	36
Astigmatism—												
Right eye		2	2	5	27	1	28	10	1		1	
Left eye		2	2	5	21	1	22	8	3	2	5	3
Both eyes		8	8	22	117	4	121	46	94	37	131	86
Defects of the cornea									1		1	
Conjunctivitis					20		20	7	12	1	13	8
Strabismus					2		2		1		1	
Examination of the ear:												
Right ear defective		1	1	2	12		12	4	2	1	3	1
Left ear defective					18		18	6		1	1	
Both defective					4		4	1	1		1	
Examination of the mouth and pharynx:												
Tonsillitis		15	15	41	76	4	80	30	23	9	32	21
Hoarseness					1		1					
Sore tongue					4	1	5	1				
Pharyngeal adenoids					1		1					
Examination of the skin:												
Acne		2	2	5	32		32	12	15	2	17	11
Pinta					17		17	6	5	8	13	8
Deformities:												
Scoliosis									30	9	39	25
Other					4		4	1	2		2	1
Diseases:												
Palpitation of the heart		18	18	50								
Anemia					94	12	106	40	26	10	36	23
Smallpox pitted		13	13	36	97	6	103	39				

Report of school inspections, public schools, city of Manila, etc.—Continued.

	Malate School.				Ermita School.				Total and average.			
	Boys (150).	Girls (50).	Total (200).	Percentage.	Boys (74).	Girls (26).	Total (100).	Percentage.	Boys (1,145). ¹	Girls (341).	Total (1,486). ¹	Percentage.
Examination of the eye:												
Myopia—												
Right eye	1		1						40	14	54	3
Left eye	1		1		1		1		44	8	52	3
Both eyes	25	13	38	19	7	6	13	13	201	86	287	19
Astigmatism—												
Right eye	1	3	4	2	2	1	3	3	74	23	97	6
Left eye	6	2	8	4	5	1	6	6	93	28	116	7
Both eyes	89	35	124	62	63	19	82	82	609	172	781	52
Defects of the cornea	1		1						11		11	
Conjunctivitis	8	1	9	4	2	1	3	3	56	5	61	4
Epiphora									3		3	
Strabismus	1		1						5		5	
Examination of the ear:												
Right ear defective	5	1	6	3					37	8	45	3
Left ear defective	9	1	10	5	4		4	4	51	5	56	3
Both defective	11	2	3	6	6	3	9	9	48	8	51	3
Examination of the mouth and pharynx:												
Tonsillitis	26	14	40	20	20	6	26	26	281	88	369	24
Hoarseness									5	2	7	
Gingivitis									1		1	
Sore tongue		1	1						6	3	9	
Pharyngeal adenoids									1		1	
Examination of the skin:												
Acne	13	1	14	7	6	1	7	7	120	12	132	8
Pinta	12	2	14	7	6	1	7	7	67	13	80	5
Hemorrhages:												
Hemoptysis									9	23	32	2
Epistaxis									1		1	
Deformities:												
Scoliosis	54	17	71	35					88	26	114	7
Hare lip									1		1	
Other	2		2	1	1		1	1	12	3	15	1
Diseases:												
Edema of feet									1		1	
Palpitation of the heart									7	19	26	1
Nervousness									3	1	4	
Anemia	78	27	105	52	25	11	36	36	342	116	458	30
Angina pectoris									1		1	
Rheumatism									1		1	
Chronic constipation									1		1	
Smallpox pitted					17	7	24	24	321	68	389	26
Tuberculosis									1		1	

¹ Of this total 3 boys are of Chinese nationality.

Reports received of lepers living in the various provinces of the Philippine Islands.*

Province.	Race.	Number of—		Children.		Single.		Married.		Wid- ow- ers.	Wid- ows.	Tot- al.
		Males.	Fe- males.	Male.	Fe- male.	Male.	Fe- male.	Males.	Fe- male.			
Abra	Filipino	6	5	1		4	3	1	2			11
Albay	do	41	16	3	3	27	9	8	3	3	1	57
Ambos Camarines.	do	20	13			5	7	10	6	5		33
Antique	do											4
Bataan	do	5	3			3		2	1		2	8
Batangas	do	18	13	1		14	6	2	3	1	4	31
Benguet ^b	do	32	11	1	1	1		21	10	9		43
Bulacan	do	27	15		1	11	9	13	3	3	2	42
Cagayan	do	42	41	1		13	15	23	13	5	13	83
Cavite	do	50	25	2	2	29	18	16	4	3	1	75
Cebu	do	195	81	24	8	102	40	63	17	6	16	276
Culion ^c	do	491	248	96	46	218	110	154	69	23	23	789
Ilocos Norte	do	78	40	2	1	22	18	51	17	3	4	118
Ilocos Sur	do	149	86	11	2	74	46	47	26	17	12	235
Isabela	do	8	2			2		6	2			10

* This is a complete report of all lepers known to exist in the Philippine Islands.

^b Revised reports not received.^c European, 1; Filipinos, 737; Chinese, 1.

Reports received of lepers living in the various provinces, etc.—Continued.

Province.	Race.	Number of—		Children.		Single.		Married.		Wid- ow- ers.	Wid- ows.	Total.
		Males.	Fe- males.	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.			
La Laguna	Filipino	15	10		4	9	3	5	1	1	2	25
Lepanto-Bontoc*	do	15	4	1		5	1	8		1	3	19
Misamis	do	54	22	4		28	14	20	6	2	2	76
Moro*	do	143	77	8	3	86	44	45	18	9	12	220
Negros Occidental	do	2				1		1				2
Nueva Ecija	do	29	15	1		11	5	14	6	3	4	44
Nueva Vizcaya*	do	2	4			1		1	2		2	6
Pampanga	do	13	3	1		5	2	4	1	3		16
Pangasinan	do	49	32		1	18	9	24	14	7	8	81
Rizal	do	51	26	6	4	20	8	24	13	1	1	77
Romblon	do	2						1		1		2
Samar	do											30
Sorsogon	do	59	28	1	2	24	18	27	4	7	4	87
Surigao*	do	2	1							2	1	3
Tarlac	do	25	15		1	5	6	18	8	2		40
Tayabas	do	16	4	1		9	2	4	2	2		20
La Union	do	30	17			11	8	18	4	1	5	47
Zambales	do	23	27			12	14	11	9		4	50
San Lazaro Hospi- tals.	(*)	128	88	21	13	62	37	35	22	10	16	216
Total		1,820	972	181	92	832	452	677	286	130	142	2,826

* Revised reports not received.

† Filipinos, 214; Chinese, 2.

Reports received of insane persons living in the various provinces of the Philippine Islands.

Province.	Race.	Number of—		Children.		Single.		Married.		Wid- ow- ers.	Wid- ows.	Total.
		Males.	Fe- males.	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.			
Abra	Filipino	34	9	3	4	25	1	6	1		3	43
Albay	do	23	20	11	6	8	6	4	5		3	43
Ambo Camarines	do	35	24	1	1	22	19	11	3	1	1	59
Antique	do	32	38			23	19	7	13	2	6	70
Bataan	do	9	2			5		3		1	2	11
Batangas	do	43	36			37	25	4	5	2	6	79
Bohol	do	279	280	11	7	209	212	50	45	9	16	559
Bulacan	do	29	23			22	13	4	7	8	3	52
Cagayan	do	17	15			12	8	3	4	2	3	32
Capiz	do	67	60		1	45	27	16	18	6	14	127
Cavite	do	29	27			16	13	10	10	3	4	56
Cebu	do	203	124	14	9	162	95	25	13	2	7	327
Ilocos Norte	do	73	30			58	17	11	6	4	7	103
Ilocos Sur	do	109	55	2	1	75	34	25	10	7	10	164
Iloilo	do	90	90	1		72	49	14	19	3	22	180
Isabela	do	9	6			4	1	5	5			15
La Laguna	do	19	16			15	7	3	5	1	4	35
Lepanto-Bontoc	do	10	7			6	5	3		1	2	17
Leyte	do	34	17	3		27	13	3	4	1		51
Masbate	do	15	21	1	1	9	14	4	5	1	1	36
Mindoro	do	9	7			8	4	1	2			16
Misamis	do	69	64	4		46	35	14	17	5	12	133
Negros Occidental	do	58	38			40	20	12	9	6	9	96
Negros Oriental	do	99	78			80	62	15	8	4	8	177
Nueva Ecija	do	19	19		1	17	12	1	5	1	1	38
Nueva Vizcaya	do	4	5			4	1		3			9
Pampanga	do	35	25			26	13	9	6		6	60
Pangasinan	do	86	67	2		49	28	24	25	11	14	153
Rizal	do	41	16			32	11	5	2	4	3	57
Romblon	do	5				3		2				5
Samar	do	32	28			24	19	4	4	4	5	60
Sorsogon	do	88	63			65	36	19	21	4	6	151
Surigao	do	9	10			5	6	2	2	2	2	19
Tarlac	do	10	10			5	6	5	3		1	20
Tayabas	do	128	103	8	1	95	75	21	15	4	12	231
La Union	do	38	25			18	17	15	6	5	2	63
Zambales	do	4	6			3	3	1	1		2	10
San Lazaro Hospi- tals.	(*)	76	16	3		50	7	18	6	5	3	92
Total		1,969	1,480	64	32	1,422	933	379	313	104	202	3,449

* Americans, 5; Europeans, 2; Filipinos, 81; Chinese, 2; others, 2.

Reports received of blind persons living in the various provinces of the Philippine Islands.

Province.	Race.	Number of—		Children.		Single.		Married.		Wid- ow- ers.	Wid- ows.	To- tal.
		Males.	Fe- males.	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.			
Abra	Filipino	44	55	2	---	10	15	18	22	14	18	90
Albay	do	365	301	73	67	177	150	84	47	81	87	606
Ambos Camarines	do	136	116	8	16	64	46	42	19	22	85	252
Antique	do	72	59	9	4	28	23	20	10	15	22	131
Bataan	do	22	21	7	5	8	8	4	1	3	7	43
Batangas	do	92	88	15	7	32	38	32	10	13	33	180
Bohol	do	198	150	46	25	91	69	46	25	15	81	348
Bulacan	do	122	82	14	6	44	35	37	17	27	24	204
Cagayan	do	51	64	3	4	15	14	18	18	15	33	115
Capiz	do	148	148	12	9	54	49	46	27	36	63	296
Cavite	do	52	44	5	4	22	20	15	6	10	14	98
Cebu	do	344	295	40	22	152	133	106	59	46	81	639
Ilocos Norte	do	90	107	5	1	21	36	37	18	27	52	197
Ilocos Sur	do	114	132	13	15	38	87	40	29	28	51	246
Iloilo	do	229	235	28	14	92	89	69	31	40	101	464
La Laguna	do	127	107	17	9	40	89	50	23	20	36	234
Leyte	do	326	195	64	22	168	95	57	29	37	49	521
Masbate	do	32	35	2	2	14	13	12	7	4	13	67
Misamis	do	71	48	6	4	43	21	14	12	8	11	119
Negros Occidental	do	59	40	---	2	31	16	21	5	7	17	99
Negros Oriental	do	142	103	14	15	57	34	36	15	35	39	245
Nueva Ecija	do	43	42	3	8	16	13	12	9	12	17	85
Pangasinan	do	166	183	12	15	63	47	64	43	27	78	249
Rizal	do	115	86	30	9	30	26	34	11	21	40	201
Romblon	do	86	29	5	6	17	17	10	4	4	2	65
Samar	do	133	69	---	---	67	29	32	20	34	20	202
Sorsogon	do	225	140	25	16	139	94	45	17	16	13	365
Surigao	do	37	26	6	2	14	6	12	12	5	6	63
Tarlac	do	47	36	1	1	17	10	22	8	7	17	83
Tayabas	do	101	84	---	---	---	---	---	---	---	---	185
La Union	do	59	46	3	2	19	9	21	14	16	21	106
Total		3,798	3,166	468	307	1,583	1,231	1,056	563	590	981	6,964

Number of vaccinations systematically performed in the Philippine Islands.

Province.	Period.		Number of vac- cina- tions.	Number of inspec- tions.	Success- ful vac- cina- tions.	Unsucc- essful vac- cinations.	Average of vacci- nations per 1,000 popula- tion.
	From—	To—					
Batangas	Dec. 15, 1905	Dec. 31, 1906	257,502	194,994	108,494	86,500	999.18
Bohol	Oct. 1, 1906	June 30, 1907	152,255	137,354	88,771	48,583	565.53
Bulacan	Nov. 23, 1906	do	92,686	57,683	27,739	35,819	415.02
Camarines	Sept. 1, 1906	do	218,474	112,916	71,066	51,830	935.76
Capiz	Nov. 8, 1906	do	124,228	60,765	35,323	25,442	551.89
Cebu	July 14, 1904	Dec. 1, 1906	748,379	593,639	295,389	299,509	1,141.12
Ilocos Norte	May 3, 1905	Sept. 30, 1906	164,056	148,552	42,372	106,180	927.99
Ilocos Sur	Oct. 1, 1906	May 31, 1907	95,752	63,557	18,186	45,171	452.56
Iloilo	Jan. 8, 1907	June 30, 1907	140,959	102,308	71,205	26,203	348.96
La Union	Mar. 23, 1905	Dec. 21, 1906	138,256	97,124	52,196	44,982	1,081.90
Lepanto-Bontoc	Jan. 1, 1907	June 30, 1907	13,844	9,593	5,978	3,613	190.29
Nueva Ecija	Apr. 3, 1907	do	44,078	30,199	7,521	22,678	331.41
Negros Occidental	Oct. 1, 1906	do	77,263	61,783	38,769	23,114	254.43
Negros Oriental	Mar. 12, 1906	Mar. 13, 1907	132,700	114,327	78,347	35,980	717.32
Pampanga	Jan. 1, 1906	June 30, 1907	165,669	121,430	69,336	52,124	744.05
Pangasinan	July 10, 1905	do	370,377	258,079	150,509	108,013	3849.42
Sorsogon	Jan. 25, 1907	do	92,862	77,628	43,823	33,800	772.59
Tarlac	May 15, 1907	do	29,954	22,965	15,672	7,293	224.36
Tayabas	Jan. 1, 1907	do	130,359	85,810	71,647	18,623	645.54
Zambales	Dec. 22, 1906	Feb. 28, 1907	55,780	39,196	23,140	16,066	930.95
Total and av- erage			3,515,383	2,401,806	1,315,478	1,086,463	771.41

Systematical vaccinations in the Islands, by months and provinces.

Province.	1906.					
	July.	August.	Septem-ber.	October.	Novem-ber.	Decem-ber.
Batangas	14,281	28,662	4,854	24,870	33,911	25,800
Bohol				2,681	21,765	15,145
Bulacan					1,808	15,236
Ambos Camarines			2,292	16,234	23,330	15,496
Cebu	19,407	37,246	22,537	32,378	4,065	
Ilocos Norte	3,928	33,759	13,737			
Ilocos Sur				13,994	15,358	14,979
Occidental Negros				9,964	2,010	
Oriental Negros		2,919	10,740	16,453	8,256	16,127
Pampanga	6,191	2,479	11,895	13,409	13,324	7,346
Pangasinan	301	174	388	1,048	1,476	2,102
La Union					14,230	
Capiz					11,617	13,981
Zambales						7,083
Total	44,108	105,239	66,447	131,031	151,145	132,294

Province.	1907.						Year.
	Janu-ary.	Febru-ary.	March.	April.	May.	June.	
Batangas							132,378
Bohol	21,245	19,031	17,434	22,686	15,101	17,167	152,255
Bulacan	12,898	8,009	11,915	13,749	18,482	10,594	92,686
Ambos Camarines	29,052	26,101	25,680	27,839	27,889	24,558	218,474
Cebu							115,633
Ilocos Norte							51,424
Ilocos Sur	19,670	17,314	12,617	1,694	126		95,752
Occidental Negros			5,960	24,049	18,316	16,974	77,263
Oriental Negros	18,902	10,958	2,442				86,797
Pampanga	15,482	11,718	12,867	11,369	3,457		109,537
Pangasinan			53,582	70,281	56,350	58,235	243,937
La Union							14,230
Capiz	19,588	12,359	14,392	18,014	14,379	19,898	124,228
Zambales	34,486	14,161					55,730
Tayabas	33,407	27,976	21,577	22,560	14,265	10,574	130,359
Sorsogon	5,534	13,916	14,914	19,268	21,491	17,739	92,862
Iloilo	19,074	18,922	20,036	34,548	26,676	21,703	140,959
Lepanto-Bontoc	311		1,899	3,009	2,936	5,689	13,844
Nueva Ecija				16,638	16,984	10,446	44,078
Tarlac					12,825	17,129	29,954
Total	229,649	180,465	215,305	285,714	249,277	230,706	2,022,380

Amount of vaccine virus distributed by the Bureau of Health.

Number on hand July 1, 1906	Units.
Received from the Bureau of Science	40,093
Total to be accounted for	2,748,880
Distributed as per itemized statement	2,788,973
Remaining on hand June 30, 1907	2,785,475
	3,498

Places at which vaccine virus was distributed.

Provinces:	Units.	Provinces—Continued.	Units.
Albay	39,000	Oriental Negros	20,000
Ambos Camarines	206,500	Pampanga	139,550
Bataan	2,100	Pangasinan	243,300
Batangas	170,350	Rizal	15,005
Benguet	6,500	Romblon	7,000
Bohol	50,000	Samar	7,000
Bulacan	102,400	Sorsogon	121,500
Cagayan	2,000	Tarlac	36,400
Capiz	137,800	Tayabas	164,300
Cavite	10,000	La Union	20,000
Cebu	525,000	Zambales	99,100
Cuyo	2,000		
Ilocos Norte	65,000	Total	2,678,025
Ilocos Sur	119,100		
Iloilo and Occidental Negros	245,100	Manila:	
Isabela	1,500	Health districts	100,850
La Laguna	22,600	Other institutions	6,600
Lepanto-Bontoc	14,600		
Misamis	3,600	Total	107,450
Nueva Ecija	49,000		
Nueva Vizcaya	2,500	Grand total	2,785,475
Occidental Negros	28,200		

Report of sera.

	Anti- peptic.	Plague prophy- lactic.	Assort- ed.
Bottles on hand at beginning of the year	231	1,026	110
Received from laboratory	0	0	0
Total to be accounted for	231	1,026	110
Issued	0	0	0
Total bottles remaining at end of the year	231	1,026	110

Smallpox and plague reports for Manila.

Nationality.	Smallpox.				Plague.			
	Cases.		Deaths.		Cases.		Deaths.	
	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.
Americans		1						
Filipinos	49	24	1					
Foreigners								
Chinese	1							
Total	50	25	1					

Health district and age.	Smallpox.		Plague.	
	Cases.	Deaths.	Cases.	Deaths.
Health districts:				
No. 1, Intramuros	7			
No. 2, Meisic	40	1		
No. 4, Sampaloc	8			
No. 5, Tondo	19			
No. 6, Paco	1			
Total	75	1		
Ages:				
Under 1 year	5	1		
1 year to 10 years	21			
10 years to 20 years	23			
20 years to 30 years	20			
30 years to 40 years	5			
40 years to 50 years	1			
Over 50 years				
Total	75	1		

Number of cases found alive: Smallpox, 75; plague, 0.

Number of cases found dead: Smallpox, 1; plague, 0.

Cholera report, city of Manila.

Nationality.	Cases.		Deaths.	
	Male.	Female.	Male.	Female.
Americans	12		9	
Filipinos	371	291	318	270
Foreigners	17	6	6	2
Chinese	22		20	
Total	422	296	353	272

Cholera report, city of Manila—Continued.

District and age.	Cases.	Deaths.
Health districts:		
No. 1, Intramuros	87	69
No. 2, Melsic	241	206
No. 4, Sampaloc	102	89
No. 5, Tondo	220	196
No. 6, Paco	68	68
Total	718	625
Ages:		
Under 1 year	9	9
1 year to 10 years	178	168
10 years to 20 years	123	93
20 years to 30 years	193	165
30 years to 40 years	112	91
40 years to 50 years	52	51
Over 50 years	51	48
Total	718	625
Number of cases found alive		282
Number of cases found dead		436
Total		718

(Cases and deaths registered from cholera in the Philippine Islands (city of Manila excepted).)

Province.	Cases.	Deaths.	Total cases.	Total deaths.	Mortality (per cent).
Bataan:					
Orion	1		1		
Batangas:					
Tanauan	2	1	2	1	50.00
Benguet:					
Baguio	1	1	1	1	100.00
Bulacan.			1,290	925	71.70
Angat	101	79			
Bailuag	413	293			
Bocaue	74	53			
Bulacan	40	38			
Calumpit	55	31			
Hagonoy	88	64			
Malolos	145	80			
Meycauayan	30	28			
Paombong	29	21			
Polo	82	71			
Quingua	117	89			
San Miguel de Mayumo	81	49			
Santa Maria de Pandi	35	29			
Capiz.			260	156	60.00
Capiz	23	17			
Dao	15	10			
Dumalag	31	15			
Dumarao	88	53			
Jamindan	31	19			
Mambusao	26	17			
Panay	35	18			
Pilar	9	6			
Sigma	2	1			
Cavite.			214	165	77.10
Bacoor	13	10			
Cavite	28	21			
Corregidor		1			
Imus	43	36			
Indang	21	16			
Maragondon	5	4			
Naic	63	55			
Noveleta	27	15			
Rosario	10	5			
San Francisco de Malabon	4	2			

Cases and deaths registered from cholera in the Philippine Islands, etc.—Continued.

Province.	Cases.	Deaths.	Total cases.	Total deaths.	Mortality (per cent).
Iloilo			1,798	1,819	73.45
Alimodian	275	217			
Banate	12	5			
Barotac Nuevo	46	35			
Buenavista	4	4			
Cabatuan	366	273			
Dumangas	210	155			
Guimbal	2	1			
Igbaras	2	1			
Iloilo	74	55			
Janluay	100	74			
Jaro	58	48			
La Paz	50	46			
Leon	33	22			
Miagao	294	215			
Molo	3	1			
Nabalas	6	4			
Pavia	32	19			
San Miguel	195	108			
Santa Barbara	36	36			
La Laguna			447	344	76.95
Bay	1	1			
Bifan	22	17			
Cabuyao	38	31			
Calamba	51	48			
Calauang	1	1			
Lillo	2	2			
Los Baños	1	1			
Lumbang	1	1			
Magdalena	5	5			
Majayjay	3	2			
Nagcarlang	66	54			
Pagsanjan	11	10			
Pangil	5	4			
Pila	49	20			
Santa Cruz	132	97			
Santa Rosa	54	45			
Siniloan	5	5			
Moro:					
Camp Vicars	9	7	9	7	77.77
Nueva Ecija			765	546	71.37
Allaga	218	147			
Cabanatuan	58	33			
Gapan	139	109			
Penaranda	150	125			
San Antonio	20	11			
San Isidro	70	57			
San Juan de Guimba	2	2			
Talavera	106	62			
Occidental Negros			92	64	69.56
Bacolod	2	1			
Hinigaran	14	13			
Pontevedra	41	24			
Saravia	9	6			
Silay	7	4			
Talisay	4	3			
Victoria	15	13			
Pampanga			1,038	761	73.30
Angeles	7	5			
Apalit	55	31			
Arayat	58	53			
Bacolor	231	162			
Candaba	49	37			
Floridablanca	16	14			
Guagua	164	113			
Lubao	77	50			
Mabalacat	1	0			
Macabebe	84	73			
Mexico	17	15			
Porac	17	12			
San Fernando	98	80			
San Luis	105	75			
Santa Rita	58	44			
Santo Tomas	1				

Cases and deaths registered from cholera in the Philippine Islands, etc.—Continued.

Province.	Cases.	Deaths.	Total cases.	Total deaths.	Mortality (per cent).
Pangasinan			85	65	76.44
Bautista	23	21			
Bayambang	20	17			
Binmaley	10	7			
Calasiao	7	5			
Dagupan	2	0			
Lingayen	2	2			
Pozorrubio	1	1			
Rosales	4	3			
Sual	2	2			
Tayug	14	7			
Rizal			780	627	80.38
Antipolo	3	3			
Binangonan	20	14			
Calocan	37	25			
Fort William McKinley	6	2			
Malabon	170	143			
Mariquina	15	10			
Morong	22	16			
Navotas	140	99			
Pasay	44	36			
Pasig	108	97			
Paranaque	25	18			
Philila	28	25			
San Felipe Neri	20	16			
San Mateo	1	1			
San Pedro Macati	26	14			
Taguig	43	39			
Tanay	72	69			
Samar			80	69	86.25
Catubig	16	14			
Laguan	1	1			
Laosn	4	3			
Palaseg	42	37			
Pambujan	3	1			
San Miguel	12	12			
Tagabiran	2	1			
Tarlac			91	78	85.71
Camiling	26	21			
Moncada	2	2			
Pura	25	20			
Tarlac	14	12			
Victoria	24	23			
Tayabas			132	112	84.84
Lagulmanoc	7	5			
Lucena	46	37			
Pagbilao	51	47			
Saraya	10	9			
Tayabas	10	7			
Tiaong	8	7			
Grand total and general average			7,085	5,243	74.00

Epidemic of cholera in the city of Manila and Provinces from August 23, 1905, to June 30, 1907.

Period.	Manila.			Provinces.		
	Cases.	Deaths.	Mortality (per cent.).	Cases.	Deaths.	Mortality (per cent.).
August, 1905	51	46	90.19	81	65	80.24
September, 1905	147	126	85.71	334	252	75.44
October, 1905	31	29	93.54	358	249	69.55
November, 1905	18	17	94.44	480	335	69.79
December, 1905	8	8	100.00	387	290	75.06
First quarter, 1906	28	27	96.42	2,138	1,644	76.89
Second quarter, 1906	102	92	90.19	365	236	64.65
Third quarter, 1906	684	595	86.98	4,893	3,703	75.67
Fourth quarter, 1906	34	30	88.20	1,942	1,379	71.00
First quarter, 1907				235	148	62.97
Second quarter, 1907						
Total	1,103	970	87.94	11,213	8,301	74.08

Statistics for San Lazaro Hospital division, report of sick.

Patients in hospital July 1, 1906	333
Patients admitted during the year	448
Patients discharged during the year	230
Patients died during the year	234
Patients transferred during the year	8
Patients escaped during the year	6
Patients remaining June 30, 1907	308

Average number of patients treated per day, San Lazaro Hospitals.

1906—July	338	1907—January	313
August	336	February	311
September	327	March	312
October	324	April	325
November	314	May	318
December	313	June	308

General average for year, 319½.

Average cost of subsistence per patient per day, San Lazaro Hospitals.

1906—July	₱0.364	1907—January	₱0.339
August	.345	February	.308
September	.341	March	.367
October	.339	April	.326
November	.341	May	.328
December	.363	June	.338

General average for the year, ₱0.341.

San Lazaro Hospitals, insane department, by race.

Race.	In hospital July 1, 1906.		Admitted.		Discharged.		Died.		Remaining.	
	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.
Americans	1		9		5				5	
Europeans	2		1				1		2	
Filipinos	66	15	25	13	20	11	6	1	65	16
Chinese	2								2	
Others	5				3				2	
Total	76	15	35	13	28	11	7	1	76	16

Report of San Lazaro Hospitals.

INSANE DEPARTMENT.

Status.	Amer- icans, male.	Euro- peans, male.	Filipinos.		Chi- nese, male.	Others, male.	Total.
			Male.	Female.			
In hospital at last report	1	2	66	15	2	5	91
Admitted	9	1	25	13			48
Discharged	5		20	11		3	39
Died		1	6	1			8
Escaped							
Remaining in hospital	5	2	65	16	2	2	92

LEPER DEPARTMENT.

Status.	Euro- peans, male.	Filipinos.		Chinese, male.	Total.
		Male.	Female.		
In hospital at last report		144	91	1	236
Admitted	1	33	23	2	59
Discharged		6	3	1	9
Died	1	43	20		64
Escaped		3	3		6
Remaining in hospital		126	88	2	216

Report of San Lazaro Hospitals—Continued.

LEPER DEPARTMENT, BY RACE.

Race.	In hospital July 1, 1906.		Admitted.		Discharged.		Escaped.		Died.		Remaining.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Europeans.....			1						1			
Filipinos.....	144	91	33	23	5	3	3	3	42	21	127	87
Chinese.....	1		2		1						2	
Total.....	145	91	36	23	6	3	3	3	43	21	129	87

PLAGUE DEPARTMENT.

Month.	In hospital July 1, 1906.	Admitted.	Discharged, not plague.	Discharged cured.	Died.	Remaining.
1906—July.....		2	2			
December.....		2				2
1907—January.....		1		*1		2
February.....						2
March.....				*2		
May.....		1	1			
Total.....		6	3	3		

* Inoculation cases from Bilibid Prison.

SMALLPOX DEPARTMENT.*

Month.	In hos- pital July 1, 1906.	Admit- ted.	Dis- charged not small- pox.	Dis- charged cured.	Died.	Remain- ing.
1906—July.....	1	1				2
August.....		1		2		1
September.....				1		
1907—January.....		6				6
February.....		5		9		2
March.....		23		17		8
April.....		30	1	25		12
May.....		7		17		2
June.....		4		6		
Total.....	1	77	1	77		

* Practically all varioloid.

CHOLERA DEPARTMENT.

Month.	In hos- pital July 1, 1906.	Admit- ted.	Trans- ferred not cured.	Dis- charged not cholera.	Dis- charged cured.	Died.	Remain- ing.
1906—July.....	5	121		9	26	80	11
August.....		92		12	28	56	7
September.....		31		1	12	19	6
October.....		8	3		3		
1907—January.....		1				*1	
April.....		1					1
May.....		1		1		*1	
June.....		1				*1	
Total.....	5	251	3	23	69	161	

* Acute purulent peritonitis.

* Diphtheritic dysentery.

* Acute enteritis with probable ptomaine poisoning.

Report of San Lazaro Hospitals—Continued.

MISCELLANEOUS.

Disease.	In hospital July 1, 1906.	Admitted.	Discharged.	Died.	Remaining.
Tetanus.....		3	*2	1	
Measles.....		4	*4		
Total.....		7	6	1	

*1 case not tetanus.

*1 case not measles.

MORGUE AND CREMATORY DEPARTMENT, BY MONTHS.

Month.	Small-pox.	Cholera.	Leprosy.	Violence.	Other causes.	Total.
1906—July.....		853	8	1	17	479
August.....		169	7	3	21	200
September.....		69	9	1	11	86
October.....		24	9		12	45
November.....		6	6	1	24	37
December.....			3		9	12
1907—January.....			4	1	12	17
February.....			2	2	6	10
March.....			4		2	6
April.....	1		4	1	6	12
May.....				1	10	11
June.....			5	4	11	20
Total.....	1	617	61	15	141	835

MORGUE REPORT, BY DISEASES.

	Number of bodies.		Number of bodies.
Remaining from last year.....	1	Dropped:	
Received:		Cremated.....	18
Leprosy.....	61	Buried by family.....	196
Cholera.....	617	Buried by city.....	611
Smallpox.....	1	Buried by Army.....	5
Violence.....	15	Buried by Bureau of Prisons.....	1
Other causes of death.....	141	Turned over to the Bureau of Science.....	1
		Remaining after the year.....	*4
Total.....	836	Total.....	836

*Skeletons.

Number of autopsies held, 188.

Bilibid Prison report of sick.

Disease.	Remaining at last report.	Admitted.	Died.	Transferred.	Discharged.	Remaining.
Hospital "A":						
Abcess.....	1	45			46	
Acne, pustulosa of face.....	1				1	
Appendicitis.....		5	1		4	
Beriberi.....	8	59	11		50	1
Bronchitis, acute.....	5	85			88	2
Blastomycosis dermatica.....	1				1	
Cellulitis.....	1	4			5	
Cholera, Asiatic.....	1	17	7		11	
Colic, intestinal.....	1	10			11	
Constipation.....		24			23	1
Conjunctivitis.....	20	201			220	1
Corneal opacity.....	1	3			4	
Cyst, sebaceous.....		12			12	
Coryza.....	1	55			56	
Circumcision.....	8	181			188	1
Dengue.....		3			3	
Diarrhea.....		13			13	
Dysentery, acute.....	2	172	8		166	
Dyspepsia.....	2	104			106	

Bilibid Prison report of sick—Continued.

Disease.	Remain- ing at last report.	Admit- ted.	Died.	Trans- ferred.	Dis- charged.	Remain- ing.
Hospital "A"—Continued.						
Distomiasis		3			3	
Dhobie Itch	3	19			22	
Epilepsy		9			9	
Fistula	1	19			20	
Filaria diurna	1				1	
Gastralgia		13			13	
Ghoma, dorsum of left hand		1			1	
Grippe		72			71	1
Hydrocele	1	10			10	1
Ascaris	5	621			616	10
Hemicrania		2			2	
Hemorrhoids		17			17	
Hernia inguinal		14			13	1
Hordeolum, left eye		2			2	
Hysteria	1				1	
Amebiasis	9	546	12		504	39
Insanity	1	3		2	2	
Leprosy	1	1		2		
Malaria, acute	11	163	3		164	7
Malaise		70			70	
Myelitis		3			2	1
Neuralgia		2			2	
Nephritis, interstitial	1	21	3		17	2
Nephritis, parenchymatous		3	2		1	
Orchitis		31			29	2
Onychia		2			2	
Edema, left foot		1			1	
Optumism		20			20	
Optic neuritis		2			2	
Otitis media		8			7	1
Panop halmitis	1				1	
Paraplegia spastic	1				1	
Paronychia		1			1	
Parotitis		2			2	
Pneumonia, lobar	1	60	15		42	4
Pyemia		1	1			
Rheumatism, acute	2	50			50	2
Septicemia		2	2			
Scalds, left arm and shoulder		1			1	
Synovial effusion, left knee	1				1	
Tinea imbricata	2	2			2	2
Typhoid fever		3	1		2	
Tuberculosis, pulmonary	3	102	10	85	9	1
Ankylostomiasis	8	1,529			1,477	60
Ulcers	2	6			8	
Wounds	5	187			191	1
Adenitis		7			7	
Anemia, pernicious		10			9	1
Arthritis		4			4	
Colitis		16	3		13	
Catarrh, intestinal		12			12	
Cardiac dilatation		2	2			
Cataract		5			5	
Dysmenorrhea		6			6	
Dermatitis		10			9	1
Enteritis, acute		10			9	1
Entero-colitis		2	1		1	
Erysipelas		1			1	
Furunculosis		10			10	
General debility		2	1		1	
Heat exhaustion		2			2	
Hepatic abscess, amebic		1	1			
Hematuria		1			1	
Hemoptysis		14			14	
Indigestion		1			1	
Peritonitis		3	3			
Phlegmon		11			11	
Pleuritis		1			1	
Syphilis		9			7	2
Tubercular peritonitis		3	2		1	
Amenorrhea		2			2	
Corneal, abscess		1			1	
Cystitis, acute		7			7	
Eczema		12			10	2
Gastritis, acute		34			33	1
Hemiplegia		1			1	
Keratitis		18			12	1
Mitral regurgitation		1			1	
Ophthalmia		1			1	
Pulmonary congestion		1			1	
Stomatitis		3	1		2	
Icterus		1			1	

Bilibid Prison report of sick—Continued.

Disease.	Remain- ing at last report.	Admit- ted.	Died.	Trans- ferred.	Dis- charged.	Remain- ing.
Hospital "A"—Continued.						
Balanitis		1			1	
Cirrhosis of liver		1			1	
Hemothorax		1	1			
Insomnia		1			1	
Laryngitis		21			21	
Lypoma		11			10	1
Lypomania		1			1	
Adenitis, tuberculous		1			1	
Malingering		2			2	
Neurasthenia		2			2	
Neuritis		4			4	
Syncope		1			1	
Catarrh, bronchial		1			1	
Cholelithiasis		2			2	
Dyspepsia and suspected typhoid fever		1	1			
Enterocolitis, diphtheritic		1	1			
Gastrectasis		1	1			
Hepatitis, acute		2	1		1	
Indigestion		8			3	
Itch		8			8	
Myopia		1			1	
Onychogryposis		1			1	
Pneumonia, broncho		1	1			
Paragonimiasis		1	1			
Pericarditis		3	2		1	
Pharyngitis		1			1	
Stricture, urethral		3			3	
Septicemia, hemorrhagic, and sus- pected plague		1	1			
Aneurysm, rupture of aorta, ab- dominal		1	1			
Asthma		5			5	
Fracture, fifth metacarpal left hand		1			1	
Mania		7		3	4	
Meningitis		2	2			
Neurosis		2			2	
Osteitis		3			3	
Tuberculosis, general		1	1			
Smallpox		9		9		
Gonorrhea		4			4	
Morphinism		6			6	
Hemorrhage, cerebral		1			1	
Mitral insufficiency		2	1		1	
Angina pectoris		3			3	
Phlebitis		1			1	
Varicose veins		2			2	
Bronchitis, chronic		1			1	
Gingivitis		2			2	
Gastrodynia		6			6	
Balantidium coli		15			14	1
Tenia		9			9	
Fistula, urinary		1				1
Menorrhagia		1			1	
Furuncle		16			16	
Abscess, upper right eyelid		1			1	
Herpes		1			1	
Burns, caustic		3			3	
Paresis, general		1			1	
Iritis		3			3	
Oxyuris		19			19	
Fistulous ulcer		4			4	
Orchitis, blenorragic		1			1	
Epithelioma, lip		1			1	
Arthritis, rheumatic		1			1	
Trachoma		1			1	
Schistosoma japonicum		15			10	5
Prolapsus of rectum		1			1	
Carbuncle		2			2	
Acne frontalis		1			1	
Clavus		2			2	
Bite of insects		3			3	
Cephalalgia		1			1	
Carcinoma of scrotum		1	1			
Tenia Nana		2			1	1
Tenia Saginata		12			12	
Tenia Solium		2			2	
Paragonimus Westermanii		7			5	2
Fistula in ano		4			2	2
Varicella		1				1
Epistaxis		1			1	

Bilibid Prison report of sick—Continued.

Disease.	Remain- ing at last report.	Admit- ted.	Died.	Trans- ferred.	Dis- charged.	Remain- ing.
Hospital "A"—Continued.						
Opisthorchis Sinensis		5			2	3
Ulcer, inflamed		1				1
Synovitis		1			1	
Sprain of ankle		1			1	
Scurvy		1				1
Hypertrophia		1				1
Pterygium		1				1
Myocarditis		1	1			
Varicocele		1				1
Endometritis		1				1
Abortion		1			1	
Panaris		1			1	
Septicæmia from wounds and con- tusion		1	1			
Causes unspecified or ill defined		22	12		10	
Undiagnosed	3				3	
Total	112	5,091	120	101	4,809	173
Hospital "B":						
Tuberculosis, pulmonary	153	90	40	2	48	153
Beriberi	4				4	
Total	157	90	40	2	52	153
Grand total	269	5,181	160	103	4,861	326

Bilibid Prison report of deaths.

Disease.	Presidio, Filipinos.		Carcel. Filipinos.			Total.	Condition.				Cemetery del Norte.
	Male.	Female.	Male.	Female.	Chinese, male.		Married.	Single.	Widowed.	Unknown.	
Typhoid fever (abdominal typhus)	1					1	1				1
Intermittent fever and malarial cachexia			2			2	1	1			2
Asiatic cholera	7					7	5		1		7
Dysentery	18	1	5			24	11	9	4		24
Other epidemic diseases (beriberi)	7		2			9	3	5	1		9
Purulent infection and septicæmia	2		2		1	5	5				5
Tuberculosis of the lungs	43		7	1		51	19	25	7		51
Tuberculosis of the meninges	1					1	1				1
Abdominal tuberculosis	3					3	1	2			3
General tuberculosis	3					3	1	2			3
Cancer and other malignant tumors of other organs or of organs not specified	2					2	1	1			2
Other chronic poisonings					1	1		1			1
Simple meningitis	1					1		1			1
Other forms of mental alienation		1				1			1		1
Epilepsy	1					1	1				1
Pericarditis	1					1		1			1
Organic diseases of the heart	2		3			5	3	1	1		5
Diseases of the arteries, atheroma, aneu- rism, etc.	1					1	1				1
Hemorrhage	1					1	1				1
Broncho-pneumonia	3					3	1	2			3
Pneumonia	7		3			10	5	5			10
Congestion and apoplexy of the lung	1					1	1				1
Ulcer of the stomach	1					1	1				1
Other diseases of the stomach (cancer excepted)	1					1			1		1
Diarrhea and enteritis (2 years and over)	4	1				5	2		3		5
Other diseases of the liver			1			1		1			1
Simple peritonitis (nonpuerperal)	1					1		1			1
Appendicitis and abscess of the iliac fossa	1					1	1				1
Acute nephritis			1	1		2	1		1		2
Bright's disease	1					1	1				1
Uterine tumor (noncancerous)	1					1		1			1
Other accidental traumatism	1					1	1				1
Other external violence			18			18	6	12			18
Causes of death unspecified or ill defined	9		4			13	8	3	1	1	13
Total	125	3	48	2	2	180	82	76	21	1	180

Civil Hospital division.

MEDICAL CASES.

Disease.	Male.	Female.	Deaths.	Disease.	Male.	Female.	Deaths.
Amebiasis intestinalis	85	32	1	Herpes zoster	1		
Angina	1			Hemophthisis	2		
Alcoholism	22			Hodgkin's disease	1		
Apoplexy		1		Indigestion:			
Aphasia	1			Intestinal	1	1	
Autointoxication	2			Acute	2		
Amblyopia	1			Chronic	8	1	
Arthritis:				Insomnia	1		
Acute	1			Inflammation of ethmoid	1		
Chronic	1			Influenza	2		
Anorexia	3			Insanity	8		
Ankylostomiasis	4			Intestinal parasites:			
Anesthesia		1		Ascaris lumbricoides	8	1	
Anemia:				Tenia	2		
Gravis	1		1	Jaundice, catarrhal	1		
Simple	1			Leprosy	1		
Anemia	6			Lumbago	2		
Asthma	3	3		Malaria:			
Asthenia	3			Tertian	10		
Asthenia, cardiac	1			Estivo-autumnal	138	11	2
Admitted for stool test	3	2		Quartan	4		
Bronchitis:				Marasmus		1	1
Subacute	10	2		Malingering	1		
Acute	7	1		Mitral stenosis		1	
Asthmatic	1			Melena	2		
Chronic	2			Migraine		1	
Beriberi	2	1		Menigitis, chronic, syphilitic	1		
Constipation:				Myalgia	1		
Chronic	9	2		Nausea of pregnancy		1	
Acute	4	1		Nephritis:			
Cholera:				Acute	8	1	
Asiatic	3			Subacute	3		
Suspect	4			Interstitial, chronic	3		
Colitis	7	1		Interstitial, subacute	1		
Colitis, chronic	1		1	Parenchymatous, chronic	1		1
Colic:				Neurasthenia	18	3	
Biliary	1	2		Neuralgia of kidney	1		
Abdominal		1		Neuritis, optic	1		
Intestinal	5			Obstipation	4		
Renal	11			Paratyphoid	4		
Gastro-intestinal	1			Paralysis	3	1	
Cephalalgia	1			Parotitis	1		
Catarrh, nasal		1		Paranoia	1		
Convalescence from—				Poisoning:			
Estivo-autumnal fever	1			Bichloride of mercury		1	1
Appendicitis	1			Morphine	2		
Beriberi	1			Arsenic	1		
Coryza	1			Pleurisy	2	2	
Dengue fever	88	10		Pharyngitis	1		
Diarrhea, acute		1		Psychosis, chronic	1		
Diabetes mellitus	1			Palpitation, cardiac	2		
Dipsomania	4			Ptomaine poisoning	7	2	
Dyspepsia	1			Pneumonia:			
Delirium tremens	1			Lobar	2	1	1
Delirium	1			Bronchial	2		1
Distomiasis	3			Rheumatism:			
Dhobie itch	1			Subacute	6		
Infected	1			Acute	10		
Enterocolitis	15	2		Syphilis:			
Enteritis:				Secondary	5		
Gastro	5	6		Tertiary	4	1	
Acute	11			Primary	4	1	
Enteritis	15	7		Syncope	1		
Eczema, face	2	1		Sciatica	1		
Erythema		1		Sprue	1	1	
Erysipelas	1			Suffocation from smoke	1		
Fever:				Tuberculosis	28		3
Hemoglobinuric		1	1	Typhoid fever	13	2	2
Acute, rheumatic	1			Tinea circinata	1		
Gastralgia	2			Toxemia, intestinal		1	
Gastritis:				Tonsillitis, simple	3		
Acute	27	2		Uremia	1		1
Chronic	9			Undetermined	5	2	
Hysteria	1	2		Whooping cough		1	
Hepatitis	2						
Headache, idiopathic	1						
Herpes	1						
				Total	727	122	17

Civil Hospital division—Continued.

SURGICAL CASES.

Disease or injury.	Male.	Female.	Deaths.	Disease or injury.	Male.	Female.	Deaths.
Adenitis:				Concussion of brain	2		1
Inguinal	3			Cystitis	1		
Cervical	2			Cyst, melibomian	1		
Left arm	1			Cataract:			
Tubercular	1			Operative		5	
Right arm	1			Traumatic	1		
Salivary glands	2			Carcinoma of—			
Appendectomy	10	8		Tongue	1		
Appendicitis, catarrhal:				Neck		1	1
Chronic	1			Pancreas	1		1
Acute	2	3		Carbuncle on neck	4		
Abscess:				Detached retina	3		
Jaw		1		Dislocation:			
Appendiceal	2			Elbow, left		1	
Brain	1		1	Ankle	1		
Liver	4		1	Epididymitis	3		
Lung	1			Extraction of tooth		1	
Buttock	1			Exostosis of—			
Periosteal	1			Arm	1		
Periurethral	1			Left tibia		1	
Ischio-rectal	1			Foreign body in cornea	1		
Perinephritic	1			Fracture of—			
Breast	1	1		Thigh	1		
Penis	1			Leg	1		
Alveolar	1	1		Metacarpal bone	1		
Leg	3			Rib	2		
Liver, multiple, chronic ame-				Clavicle		1	
biasis	1		1	Elbow		1	
Testicle	1			Tibia		1	
Perirectal	1			Skull, base of	1		1
Nephritic	1			Fissure in ano	1		
Amputation of toe	1			Fistula in ano	3	1	
Arthritis:				Fistula	1	1	
Gonorrheal	1			Fistula of scrotum	2		
Subacute	1			Furunculosis		1	
Burns:				Furunculosis of legs	1		
Acid, carbolic	2			Furuncle of foot	1		
Hand and wrist	1			Gonorrhea	16	1	
Face and chest	2			Gangrene of scrotum	1		1
Knee	1			Genus valgum	1		
Of hands, face, and chest	1			Glaucoma	3		
Of toe	1			Hydrocele	6		
Body	1			Hydrothorax	1		
On trunk and limbs	1			Hemorrhoids	7	1	
Chronic infection of old wound	1			Hernia, inguinal	8		
Chancroid	5			Infected—			
Calculi, renal	1			Foot	13	1	
Cholelithiasis		1		Lip	2		
Cholecystitis	1			Toes	1		
Conjunctivitis:				Hand	16		
Purulent	1			Vaccination wound	1		
Traumatic	2			Ingrowing toe nails	3		
Infective	19	1		Lipoma	1		
Phlyctenular	4			Lacerated—			
Acute	3			Foot	3		
Simple	1			Fingers	1		
Cellulitis of—				Abdomen	1		
Hand	4			Laceration of lung	1		
Finger	1			Macerated hand	1		
Foot	4			Nephrolithiasis	1		
Leg	1			Ophthalmia		1	
Toe	1			Orchitis	19		
Circumcision	3			Obstruction, intestinal	3		
Contusion of—				Otitis:			
Body	2			Media, purulent	1		
Foot	4			Media	10	3	
Chest	3	1		Peritonitis following typhoid per-			
Hip	1	1		foration	1		1
Knee	1			Periostitis of—			
Eye	1			Fibula	1		
Clavicle	2			Rib	1		
Leg	1			Perineorrhaphy		3	
Superior maxilla		1		Prostatitis, subacute	1		
Forearm	2			Pyonephrosis	2		
Head	1			Pemphigus of foot	1		
Scalp	1	1		Phlebitis	1		

Civil Hospital division—Continued.

SURGICAL CASES—Continued.

Disease or injury.	Male.	Female.	Deaths.	Disease or injury.	Male.	Female.	Deaths.
Panophthalmitis	1	—	—	Wound:	—	—	—
Pterygium	2	—	—	Gunshot—	—	—	—
Prolapse of rectum	2	—	—	Of chest	—	—	1
Rheumatism, gonorrheal	2	—	—	Of shoulder	1	—	—
Strabismus, optical	1	—	—	Of head	1	—	—
Sprained—	—	—	—	Lacerated—	—	—	—
Ankle	4	1	—	Of foot	5	—	—
Back	1	—	—	Of leg	2	—	—
Wrist	1	—	—	Scalp	1	—	—
Suppuration of mastoid sinus	1	—	—	Toe	1	—	—
Stricture, urethral	2	—	—	Foot	—	1	—
Tubercular glands of neck	4	—	—	Hand	2	—	—
Trachoma	1	—	—	Punctured—	—	—	—
Tonsillitis, suppurative	1	—	—	Thigh	1	—	—
Ulcerated tooth	—	1	—	Perineum	1	—	—
Ulcers of—	—	—	—	Bullet—	—	—	—
Leg	4	—	—	Thigh	1	—	—
Hands and feet	1	—	—	Arm and chest	1	—	—
Foot	1	—	—	Incised—	—	—	—
Leg and foot	2	—	—	Hand	1	—	—
Urethritis, nonvenereal	4	—	—	Arm	1	—	—
Varicocele	2	—	—	Total	313	45	9
Varicose veins	3	—	—				

OBSTETRICAL AND GYNECOLOGICAL CASES.

Disease or injury.	Cases.	Deaths.	Disease or injury.	Cases.	Deaths.
Abortion, spontaneous	1	—	Menorrhagia	2	—
Abdominal adhesions	1	—	Miscarriage	2	—
Cystic ovary	2	—	Ovarian cystoma	1	—
Cervicitis	1	—	Pyosalpinx	1	—
Carcinoma uteri	1	1	Pregnancy	15	—
Curettage	14	—	Polypus, uterine	1	—
Childbirth	65	—	Retroversion of uterus	2	—
Dysmenorrhea	1	—	Septicemia, puerperal	2	—
Eclampsia	1	1	Uterine, fibroid	1	—
Endometritis	6	—	Vaginismus	1	—
Endometritis, chronic	2	—			
Endocervicitis	1	—	Total	125	2
Leucorrhœa	1	—			

Chinese hospital sick report.

[Dr. Tee Han Kee, physician in charge.]

Status.	Number.		Total.
	Male.	Female.	
In hospital October 1, 1906	15	—	15
Received	157	—	157
Discharged	69	—	69
Transferred	3	—	3
Died	73	—	73
Remaining June 30, 1907	27	—	27

Benquet Sanitarium division.

CASES TREATED.

Diseases.	Ameri- cans.	Euro- peans.	Fili- pinos.	Japa- nese.	Total.
Abrasion			1		1
Abscess:					
Acute			7		7
Ischio-rectal			1		1
Perineal	1				1
Suppurative			1		1
Ankylosis (of knee)			1		1
Appendicitis				2	2
Arthritis, tubercular				1	1
Ascaris lumbricoides			3		3
Atrophy, infantile			1		1
Bronchitis:					
Acute			9		9
Chronic			1		1
Carbuncle			1		1
Conjunctivitis, acute			3	2	5
Constipation:					
Acute			5		5
Chronic			5		5
Dengue	2				2
Dermatitis			1		1
Diarrhea, catarrhal	1		4	1	6
Disease undetermined			1	2	3
Dislocation:					
Left elbow, lateral			1		1
Femur			1		1
Humerus			1		1
Dysentery:					
Amebic	4	1	2	6	13
Catarrhal			1	3	4
Enteritis			1		1
Enterocolitis, acute	1		1		2
Epilepsy, petit mal			1		1
Fever, undetermined			2		2
Fistula:					
Ischio-rectal				1	1
Rectal			1		1
Fractures:					
Base of skull			1		1
Compound, skull			1		1
Femur			1		1
Forearm (Colle's)			1		1
Ulna, radius, and humerus			1		1
Compound, tibia and fibula			1	1	2
Gastritis:					
Acute			2	1	3
Chronic	3			1	4
Gastroenteritis:					
Acute	1		2		3
Chronic		1			1
General debility	2				2
Harelip			1		1
Heart, disease of, valvular			1		1
Herpes zoster			1		1
Impetigo			3		3
Iritis, rheumatic				1	1
Lymphangitis			1		1
Malaria:					
Undetermined	4		34	6	44
Estivo-autumnal	1		4		5
Pernicious			1		1
Tertian	1		22	7	30
Necrosis of inferior maxilla				1	1
Orchitis			1		1
Ostitis, osteoperi-, inferior maxillary			1		1
Osteo-sarcoma, right knee			1		1
Otitis			2	1	3
Pemphigus			2		2
Periostitis, inferior maxillary			1		1
Peritonitis			1		1
Pleurisy, chronic			2		2
Pneumonia:					
Bronchial			1		1
Lobar			7		7
Prostatitis	1				1
Scabies			1		1
Sciatica			1		1
Septicemia, puerperal			1		1
Spleen, enlargement of			1		1
Stenosis, aortic				1	1
Tenia solium			1		1
Tonsillitis, ulcerative			1		1

Benguet Sanitarium division—Continued.

CASES TREATED—Continued.

Disease.	Amer- icans.	Euro- peans.	Fili- pinos.	Japa- nese.	Total.
Tuberculosis, pulmonary			1	1	2
Typhoid fever	1			2	4
Ulcers, acute			2		2
Ulcer of cornea			1		1
Ulcer, infected			4	1	5
Worms, intestinal: Uncinaria	1		1	1	3
Wounds:					
Contused			7	1	8
Gunshot, left hand	1				1
Incised			2	1	3
Infected			3		3
Lacerated	1		6	3	10
Total	26	2	189	48	265

Included in the above are eight cases remaining from the previous fiscal year.

Of the above cases, fifteen were females, as follows: 1 American, 1 European, 1 Japanese, 12 Filipinos.

Igorots are classified with Filipinos.

The above table shows an increase in the hospital cases of 75.88 per cent over the report of last fiscal year.

OUTDOOR DEPARTMENT.

Disease.	Number of cases.	Disease.	Number of cases.
Abortion, accidental	1	Chronic	37
Abrasion	1	Gastro-enteritis	4
Abcess:		Gingivitis	3
Acute	1	Gonorrhea, acute	11
Foot	3	Headache	44
Liver	3	Heart, disease, organic	2
Tooth	1	Hemorrhoids	5
Alcoholism, acute	1	Intestinal parasites	3
Amenorrhea	1	Inflammation	3
Ankylosis	1	Iritis, rheumatic	1
Appendicitis	2	Laryngitis	9
Ascaris lumbricoides	33	Lumbago	3
Asthma, bronchial	1	Malaria	246
Atrophy, infantile	1	Malarial cachexia	1
Blepharitis	1	Nephritis	1
Bronchitis	147	Neuralgia	11
Billiousness	1	Neurasthenia	6
Bubo	1	Neuritis	2
Carcinoma of breast	1	Opium habit	1
Catarrh, nasal, chronic	1	Osteitis, acute	2
Chancre	1	Parotiditis	1
Chancroid	1	Pediculosis	2
Childbirth	3	Periostitis	1
Conjunctivitis, acute	31	Pharyngitis:	
Constipation:		Acute	6
Acute	196	Chronic	1
Chronic	26	Pleurisy, chronic	2
Coryza, acute	10	Pneumonia, lobar	1
Croup, spasmodic	4	Pregnancy	1
Cystitis:		Rheumatism:	
Acute	7	Articular	4
Chronic	1	Muscular	45
Debility, general	42	Seborrhea	1
Dengue	3	Scabies	10
Dental caries	13	Strain	19
Dermatitis	26	Stomatitis	26
Diarrhea:		Stricture, urethral	1
Acute	64	Syphilis	18
Chronic	6	Tonsillitis, acute	6
Dysentery, amebic	6	Tuberculosis, pulmonary	7
Dysmenorrhea	4	Ulcers	20
Earache	1	Urticaria	2
Eczema	16	Wounds:	
Epididymitis	1	Contused	29
Endometritis	3	Infected	38
Enteritis, acute	6	Incised	3
Enterocolitis, acute	4	Lacerated	9
Furuncle	9		
Gastritis:		Total	1,871
Acute	31		

The above table shows an increase in cases treated in the outdoor department of 129.26 per cent over report of last year.

Benquet Sanitarium division—Continued.

EXAMINATIONS MADE.

Specimens examined.	Americans.	Europeans.	Filipinos.	Japanese.	Total.
Blood:					
Erythrocyte count			1		1
Hemoglobin	1	1			2
Leucocyte			1		1
Malaria	26	1	92	32	151
Feces	54	2	92	88	186
Pus	1		1		2
Sputum		1	7	1	9
Urinalysis	13	8	2		18
Vomit	1				1
Total	96	8	196	71	271

MISCELLANEOUS STATISTICS.

Number of days spent in hospital by all patients	3,041
Average number of days per patient spent in hospital	11.52
Number of surgical dressings during the year	1,210
Percentage of increase in number of surgical dressings over report of last fiscal year	243.76
Number of surgical operations performed during the year, including major and minor cases	43
Percentage of increase of surgical cases during the year	53.57
Number of revisits during the year	1,354
Percentage of increase of revisits during the year	198.89
Number of prescriptions filled during the year	1,994
Percentage of increase of prescriptions during the year	55.29
Number of Constabulary recruits examined during the year	4
Number of deaths during the year (hospital cases—European male, 1; Filipino male, 1; Filipino female, 1; Igorrote male, 6)	9
Number of vaccinations during the year (at hospital, 207; outside, 450)	657

AVERAGE COST OF SUBSISTENCE PER PERSON PER DAY, INCLUDING PATIENTS AND EMPLOYEES.

1906—July	₱0.956	1907—January	₱0.882
August	.915	February	.75
September	.994	March	.70
October	.962	April	.586
November	.98	May	.696
December	.981	June	.9052

Average for the 12 months, ₱0.8589.

STATEMENT OF REVENUES.

Prescriptions	₱273.75
Hospital charges	1,866.25
Subsistence charges, guests of employees	348.00
Attendance of nurse on patient at residence	48.00
Sale of chicken house, etc.	150.00
Sales of subsistence stores to C. M. Jenkins, Hotel Pines, Baguio, under terms of contract of March 12, 1906	1,061.91
Sales of public civil property to C. M. Jenkins under terms of contract of March 12, 1906	3,952.49
Rental of Government cottages	387.00
Rental of Hotel Pines to C. M. Jenkins, under terms of contract of March 12, 1906	2,100.00
Receipts for laundry charges (linen of occupants of cottages)	1.20
Total receipts	10,168.60
Less amount of refund on overcharge	49.00
Total net receipts	10,119.60

Culion leper colony division.

Status.	Europeans.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	
Remaining September 30, 1906	1		199	137	1		338
Admitted			434	181			615
Born			2	3			5
Discharged			4	1			5
Transferred							
Escaped			7	2			9
Died			135	70			205
Remaining June 30, 1907	1		489	248	1		739

Iwahig penal settlement—Sick report.

Disease.	Total sick as per last report.	Taken since last report.	Died.	Discharged.	Total number sick this date.
Abscess		18	1	17	
Beriberi	17	68	6	79	
Bronchitis and beriberi	1			1	
Dysentery	1	19	3	17	
Fistula		2		2	
Gastritis		12		12	
Wounds, unspecified		34		32	2
Icterus gravis		1	1		
Malaria	15	692	4	694	9
Malaria and tuberculosis		1	1		
Pernicious malaria		1	1		
Malarial cachexia and tuberculosis		1	1		
Malarial cachexia	1		1		
Orchitis		4		4	
Papillomata		1		1	
Rheumatism		17		15	2
Scabies		3		3	
Tuberculosis, pulmonary		7	5	2	
Ulcers		13		11	2
Anemia		2		2	
Senile debility		1	1		
Organic disease of the heart		6	3	3	
Arthritis, tuberculous		1		1	
Typhoid fever		1	1		
Hydrocele		8		8	
Malaria and beriberi		13		13	
Malaria and tonsillitis		1		1	
Pneumonia		1		1	
Phlyctenular keratitis		1		1	
Acute bronchitis		2		2	
Pulmonary congestion		3	1	2	
Traumatic contusion		1		1	
Diarrhea		4		4	
Ulcerative stomatitis		1		1	
Pleurisy		2		2	
Cysts		1		1	
Traumatic proitis		1		1	
Anthrax		2		1	1
Acute enterocolitis		3		3	
Angina of tonsil		1		1	
Appendicitis		1		1	
Arthritis, traumatic		1		1	
Bronchitis chronic		1		1	
Bruises		2		2	
Cervical adenitis		1		1	
Conjunctivitis		3		3	
Malarial fever, bronchitis and anal fistula		1		1	
Diseases of the nasal fossae		5		5	
Fluxion of the chest		1		1	
Furuncle		1		1	
Icterus		1		1	
Laryngo-bronchial catarrh		1		1	
Malaria and dysentery		2		2	
Nephritis		2		2	
Burns		1		1	
Ozena		1		1	
Pericarditis		1	1		
Periostitis		2		2	
Pleurisy		1		1	
Whooping cough		1		1	
Wounds and anal fistula		1		1	
Traumatism		2		2	
Enteritis, acute		3		3	
Herpes		1		1	
Laryngitis		1		1	
Stomatitis		2	2		
Otitis		1			1
Scabies and hydrarthrosis		1		1	
Syphilis		1			1
Sinovitis		1		1	
Submersion, accidental		1		1	
Undetermined		1		1	
Under observation		3		3	
Total	35	994	33	978	18

Statistical tables, sanitary engineering division.

NUMBER OF ORDERS ISSUED.

Month.	Sanitary engineer division.	Health districts.					
		No. 1.	Nos. 2 and 3.	No. 4.	No. 5.	No. 6.	Total.
1906—July.....	7	5	-----	2	3	-----	17
August.....	126	5	-----	2	2	-----	135
September.....	42	7	-----	1	2	2	54
October.....	47	-----	2	1	1	-----	51
November.....	57	-----	5	1	-----	-----	63
December.....	21	-----	6	-----	2	-----	29
1907—January.....	3	-----	1	1	-----	-----	5
February.....	1	-----	6	2	-----	-----	9
March.....	4	2	4	1	2	-----	13
April.....	39	-----	2	3	-----	-----	44
May.....	26	4	3	6	-----	1	40
June.....	76	6	8	16	3	1	110
Total.....	449	29	37	36	15	4	570

NUMBER OF ORDERS OBEYED.

1906—July.....	4	5	-----	2	3	-----	14
August.....	101	5	-----	2	2	-----	110
September.....	29	6	-----	1	1	2	39
October.....	34	-----	2	1	-----	-----	37
November.....	43	-----	4	1	-----	-----	48
December.....	10	-----	5	-----	2	-----	17
1907—January.....	1	-----	-----	1	-----	-----	3
February.....	-----	6	1	-----	-----	-----	7
March.....	-----	1	4	1	2	-----	8
April.....	-----	-----	2	3	-----	-----	5
May.....	-----	2	-----	4	-----	1	7
June.....	-----	1	-----	-----	3	-----	4
Total.....	222	20	24	17	13	3	299

PLANS FOR NEW BUILDINGS APPROVED.

1906—July.....	-----	1	5	2	-----	1	9
August.....	-----	2	9	2	2	1	16
September.....	-----	2	2	-----	1	2	7
October.....	-----	1	6	5	5	2	19
November.....	-----	2	5	4	3	-----	14
December.....	-----	-----	4	5	3	-----	12
1907—January.....	-----	2	1	1	2	-----	6
February.....	-----	3	4	4	2	-----	13
March.....	-----	1	7	5	-----	1	14
April.....	-----	6	3	6	-----	-----	15
May.....	-----	8	5	3	-----	1	17
June.....	-----	6	2	4	2	-----	14
Total.....	-----	34	53	41	20	8	156

NUMBER OF ORDERS UNCOMPLETED.

1906—November.....	1	-----	-----	-----	-----	-----	1
December.....	1	-----	1	-----	-----	-----	2
1907—January.....	1	-----	-----	-----	-----	-----	1
March.....	-----	1	-----	-----	-----	-----	1
April.....	38	-----	-----	-----	-----	-----	38
May.....	23	2	3	2	-----	-----	30
June.....	76	5	8	15	-----	1	105
Total.....	140	8	12	17	-----	1	178

NUMBER OF ORDERS CANCELED AND DISAPPROVED.

1906—July.....	3	-----	-----	-----	-----	-----	3
August.....	4	-----	-----	-----	-----	-----	4
September.....	6	1	-----	-----	1	-----	8
October.....	4	-----	-----	-----	1	-----	5
November.....	6	-----	1	-----	-----	-----	7
December.....	10	-----	-----	-----	-----	-----	10
1907—January.....	24	-----	-----	-----	-----	-----	24
February.....	2	-----	-----	1	-----	-----	3
March.....	8	-----	-----	-----	-----	-----	8
April.....	13	-----	-----	-----	-----	-----	13
May.....	7	-----	-----	-----	-----	-----	7
June.....	-----	-----	-----	1	-----	-----	1
Total.....	87	1	1	2	2	-----	93

Statistical tables, sanitary engineering division—Continued.

PROSECUTIONS FOR FAILURE TO COMPLY WITH SANITARY ORDERS.

Month.	Number of prosecutions.	Amount of fines.
1906—August	2	P40.00
September	2	20.00
November	* 1	36.00
Total	5	96.00

* With cost.

PERSONNEL OF THE DIVISION.

Month.	Engi-neers.	Inspect-ors.	Clerks.	Trans-lators.	Drafts-men.	Messen-ger.	Total.
1906—July	1	2		1	1	1	6
August	1	1	1	1	1	1	6
September	1	1	2	1	1	1	7
October	1	3		1	1	1	7
November	2	2		1	1	1	7
December	1	2		1	1	1	6
1907—January	1	2		1	1	1	6
February	1	1		1	1	1	5
March	1	2		1	1	1	6
April	1	2	1		1	1	6
May	1	3	1		1	1	7
June	1	3	1		1	1	7

FINANCIAL STATEMENT OF THE BUREAU OF HEALTH.

The following statement shows the expenditures made during the fiscal year 1907 chargeable against the appropriation made by Act No. 1527 for the Bureau of Health during that period:

Amount appropriated P1,038,000.00

Expenditures chargeable as follows:

Salaries and wages:

General	P133,438.26
Examining boards	1,125.88
Emergency funds, general	1,843.75
District health officers, at large	37,015.62
District health officers, special districts	76,299.10
Culion leper colony division	16,680.88
Emergency fund, Culion	340.35
Vaccinating division	54,275.50
San Lazaro Hospital division	37,007.50
Emergency fund, San Lazaro	17,245.55
Civil Hospital division	65,167.87
Emergency fund, Civil Hospital division	176.00
Benguet Sanitarium division	7,741.17
Prison sanitation division	6,943.33

455,300.76

Expenditures chargeable as follows—Continued.

Contingent expenses:

General—

Medicines for indigent natives ..	₱5,794.60
Disinfecting apparatus and disinfectants	4,953.85
Stationery and office supplies ..	2,520.16
Miscellaneous supplies	509.41
Rent post-office box	32.00
Transportation of freight	1,494.97
Telephone, general	700.73
Purchase of office furniture	1,909.66
Cablegrams	66.00
Periodicals	54.60
Repairs to office furniture	182.25
Surgical instruments	18.00
Printing	15,181.39
Transportation, city of Manila ..	20,133.89
Traveling expenses, regular employees	10,745.25
Incidentals	190.40
Postage and telegrams	1,450.88
Hospicio de San José	46,785.30
Hospital de Santiago	960.00
Colegio de Santa Isabel	4,848.56
San Vicente de Paul Orphan Asylum	1,448.90
Traveling expenses, district health officers, special districts ..	9,137.45
Sanitary stations, rent	320.00
Incidentals, sanitary stations ..	131.65

₱129,569.90

Vaccinating division—

Ice for preserving virus	442.95
Purchase of vaccine	30,236.75
Antiseptic supplies and dress- ings for vaccinators	2,710.12
Traveling expenses of vaccin- ators	9,319.69

42,709.51

San Lazaro Hospitals division—

Subsistence	48,884.57
Leper gratuity	2,316.43
Medicines	1,886.41
Fuel	1,769.93
Lights	3,002.20
Soap	673.51
Forage and horseshoeing	705.49
Clothing insane	619.80
Tobacco and cigarettes	124.61
Clothing lepers	1,715.12
Bedding	195.80
Incidentals	1,890.42
Telephone	176.05

63,961.34

Expenditures chargeable as follows—Continued.

Contingent expenses—Continued.

Civil Hospital division—

Subsistence	₱61,963.54	
Medicines	8,850.83	
Miscellaneous and general supplies	5,528.71	
Post-office box rent	24.00	
Transportation in Manila	3.00	
Repairs and purchase of equipment ..	1,019.02	
Rent of buildings	12,000.00	
Lights	4,187.63	
Telephone	281.00	
Coal and oil	1,284.88	
Laundry	7,367.23	
Forage	390.53	
Horseshoeing	38.64	
Traveling expenses, employees	920.00	
Incidentals	286.55	
		₱104,145.06

Culion leper colony division—

Subsistence, employees	2,959.40	
Subsistence, lepers	27,835.56	
Hospital equipment	337.20	
Leper gratuity	4,734.26	
Clothing	3,189.40	
Bedding	200.00	
Stationery and printing supplies	18.20	
Fuel, light, oil, etc	1,067.53	
Medicines and medical supplies	206.05	
Incidentals	2,153.10	
Transportation of lepers	780.90	
		43,481.60

Prison sanitation division—

Medicines	9,135.73	
Disinfectants	1,924.06	
		11,059.79

Benguet Sanitarium division—

Subsistence	2,914.51	
Hospital furnishings	894.66	
Medicines and surgical supplies	267.04	
Fuel	348.20	
Maintenance of transportation	44.45	
Laundry	450.00	
Repairs	3.00	
Incidentals	262.95	
		5,184.81

Grand total 855,412.77

In addition to the foregoing statement of actual expenditures made from funds appropriated in Act No. 1527, there are the following outstanding obligations chargeable to the appropriation of the Bureau and funds appropriated for same during the fiscal year 1907:

Stationery and office supplies	₱188.66
Incidentals, sanitary stations	19.80
Medicines and supplies, Central Dispensary	493.78
Dressings, supplies, vaccinating division	663.50
Disinfectants, Manila	274.32
Medicines and disinfectants, prison sanitation division	277.54
Medicines and supplies, indigent persons	308.40
Incidentals, San Lazaro Hospital	108.93
Medicines and supplies, San Lazaro Hospital	930.39
Soap, San Lazaro Hospital	480.70
Miscellaneous supplies, Civil Hospital	577.15
Medicines and supplies, Civil Hospital	1,587.10
Coal and oil, Civil Hospital	202.81
Medicines and supplies, Culion leper colony	620.89
Bedding, Culion leper colony	174.66
Freight and postage, Culion	100.41
Clothing, Culion leper colony	3,172.43
Incidentals, Culion leper colony	50.96
Kitchen equipment, Culion leper colony	28.50
Medical and surgical supplies, Benguet Sanitarium	35.02
Freight, Benguet	8.63
Balance freight, Benguet	1.89
Total	10,306.47

In addition to these appropriations there was appropriated by Resolution of the Commission, subsequently confirmed by Act No. 1660, ₱10,000 for the collection of lepers, the whole of which has been expended as follows:

Collection and maintenance of lepers	₱8,070.53
Traveling expenses of officers and employees in connection with the collection of lepers	420.70
	8,491.23
Outstanding obligations	1,508.77
Total	10,000.00

The Commission also appropriated ₱55,000 for the construction of an annex for 250 additional insane at San Lazaro, the construction of which was undertaken by the Bureau of Public Works. From this sum ₱10,000 was allotted for the furnishing and equipment of the annex, and was expended as follows:

Phonograph and records	₱125.00
Sundries	4,770.38
Outstanding obligations:	
Miscellaneous supplies, Bureau of Supply:	
Coal, blankets, etc.	1,031.90
Others not specified	2,072.72
Returned to Bureau of Public Works	2,000.00
Total	10,000.00

The following amounts as credits to this appropriation were collected during the year:

Refund by provinces of salaries of district health officers	₱66,363.02
Refund by Bureau of Education of one-half salary of Dr. Anna Dixon Peck, supervising nurse	472.21
Sale of medicines	730.86
Sale of supplies, ambulances, bull carts, sanitary pails, demijohns, etc	4,712.68
Miscellaneous collections, San Lazaro Hospital	308.20
Miscellaneous collections, Civil Hospital	28,176.12
Miscellaneous collections, Benguet Sanitarium	10,173.13
Subsistence Culion leper colony	154.64
Total	109,087.68

INDEX.

Act No.—	Page.
1407, Reorganization Act	52
1526, an act for the prevention and suppression of cholera.....	67
1530, burial permits, etc.....	67
1580, appropriations for public works, etc.....	67
1613, amending Act No. 308.....	67, 68
1632, graduates of Philippine Medical School.....	68
1651, graduates of Philippine Medical School.....	68, 69
1655, Pure Food and Drugs Act.....	27, 28, 29, 30, 31
Adulteration	34, 35
Exports and imports	40, 41
Misbranding	35, 36, 37, 38, 39
Rules and regulations for enforcement of.....	32,
	33, 34, 35, 36, 37, 38, 39, 40, 41, 69
Ambulance service	72
Amœbic dysentery	15, 16
Army board of tropical diseases.....	59, 60
Baguio	81, 82
Benguet sanitarium division	88, 89, 90
Beriberi	6, 7
Bilibid Prison	41, 42, 43, 87, 88
Board of Medical Examiners	110, 111
Board of Dental Examiners	111
Board of Pharmaceutical Examiners	111
Board organization, discussion of	74
Bulletins	58
Bureau organization, advantages of	74
Cemeteries	74, 75, 76, 77, 78
Census, city of Manila	4
Cholera	5
Cholera curative sera	59
Circular F 8, regulations for provincial vaccinators.....	22, 23, 24, 25, 26
Civil-service physical examinations	78
Clerical division	94, 95
Conclusion	112, 113
Conjunctivitis	49
Culion leper colony	90, 91, 92, 93
Dairies and dairy products, sanitary regulation of.....	44, 45, 46, 47
Death rates:	●
Comparison of	3
Decline in	82, 83
Dental Examiners, Board of	111
Diphtheria	11, 49
Dispensaries	61, 62
Divisions, Bureau of Health, report of:	
Benguet Sanitarium	88, 89, 90
Bilibid Prison	87, 88
Civil Hospital	86, 87

Divisions, Bureau of Health—Continued.

	Page.
Clerical	94, 95
Culion leper colony	90, 91, 92, 93
Inspection	109, 110
Property	108, 109
Sanitary engineering.. 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108	
San Lazaro Hospital	93, 94
Statistical	84, 85, 86
Examinations, physical	78
Examiners, Board of—	
Medical	110, 111
Dental	111
Pharmaceutical	111
Expenditures	111, 112
Filling in of lowlands	84
Filters	64, 65
Fish, poisonous	70, 71
Gangosa	12, 13
Health resorts	81, 82
Homeless	72
Hospitals, new	59
Benguet Sanitarium	88, 89, 90
Civil	86, 87
Maternity	72
San José	72
San Lazaro	93, 94
Hygiene:	
School	47, 48, 49
Personal	50
Insane	14, 15
Inspection division	109, 110
Iwahig penal settlement	79
Legislation	67, 68, 69, 70
Leper colony, Culion	16, 17, 18, 90, 91, 92, 93
Lepers, collection of	17
Leprosy:	
Cases, number of	3, 16
Conclusions drawn concerning	20
Detection of	16
Treatment of, X-ray	18, 19, 20
Los Baños	81, 82
Malaria	14
Manila:	
Sanitary organization in	51
* Water supply of	60, 61, 62
Markets:	
Provincial	71
Of Manila	73, 74
Measles	13, 49
Medical Examiners, Board of	110, 111
Milk	44, 45, 46, 47
Miyajima, Dr. Kannosuke	20
Mosquito extermination	80
Mumps	49
Nonleprous persons, residence of, in Culion.....	17, 18

Statistics—Continued.

	Page.
Chinese hospital	161
Cholera	3, 5, 149, 150, 151, 152
Civil Hospital	159, 160, 161
Crematories	141
Culion leper colony	164
Death rates, city of Manila.....	3
General	85, 86
Deaths, by age, district, and nationality.....	118, 119
Diphtheria	11
Disinfection	141, 142
Disinterments	140
Financial statement	167, 168, 169, 170, 171
Houses, inspection and cleaning of.....	141
Insane	146
Iwahig penal settlement	165
Lepers	145, 146
Leprosy	3
Licenses	142, 143
Miscellaneous	141, 164
Opium patients	52
Pail collections	142
Pail-conservancy system	142
Paragonimus Westermanii	13
Permits for disposition of dead bodies.....	140
Plague	6, 149
Poor, sick and wounded	139, 140
Prescriptions filled	140
Rats	141
Revenues	164
Sanitary engineering division	166, 167
San Lazaro Hospital	153, 154, 155
Schools	143, 144, 145
Sera	149
Smallpox	149
Subsistence	164
Vaccinations	3, 147, 148
Vaccine virus distributed	148
Vaults, inspected and cleaned	141, 142
Whitewashing	141
Yaws	11
Street sweepings	84
Tropical diseases, Army board of.....	59, 60
Tuberculosis	7, 8, 9, 10, 49
Typhoid fever	11, 12, 49
Vaccinations	3, 21
Regulations for provincial vaccinators, Circular F 8.....	22, 23, 24, 25, 26
Vaults	96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108
Water supply of Manila	60, 61, 62
General	62, 63, 64, 65, 66
Weather conditions	60
Wells	66
Yaws	11

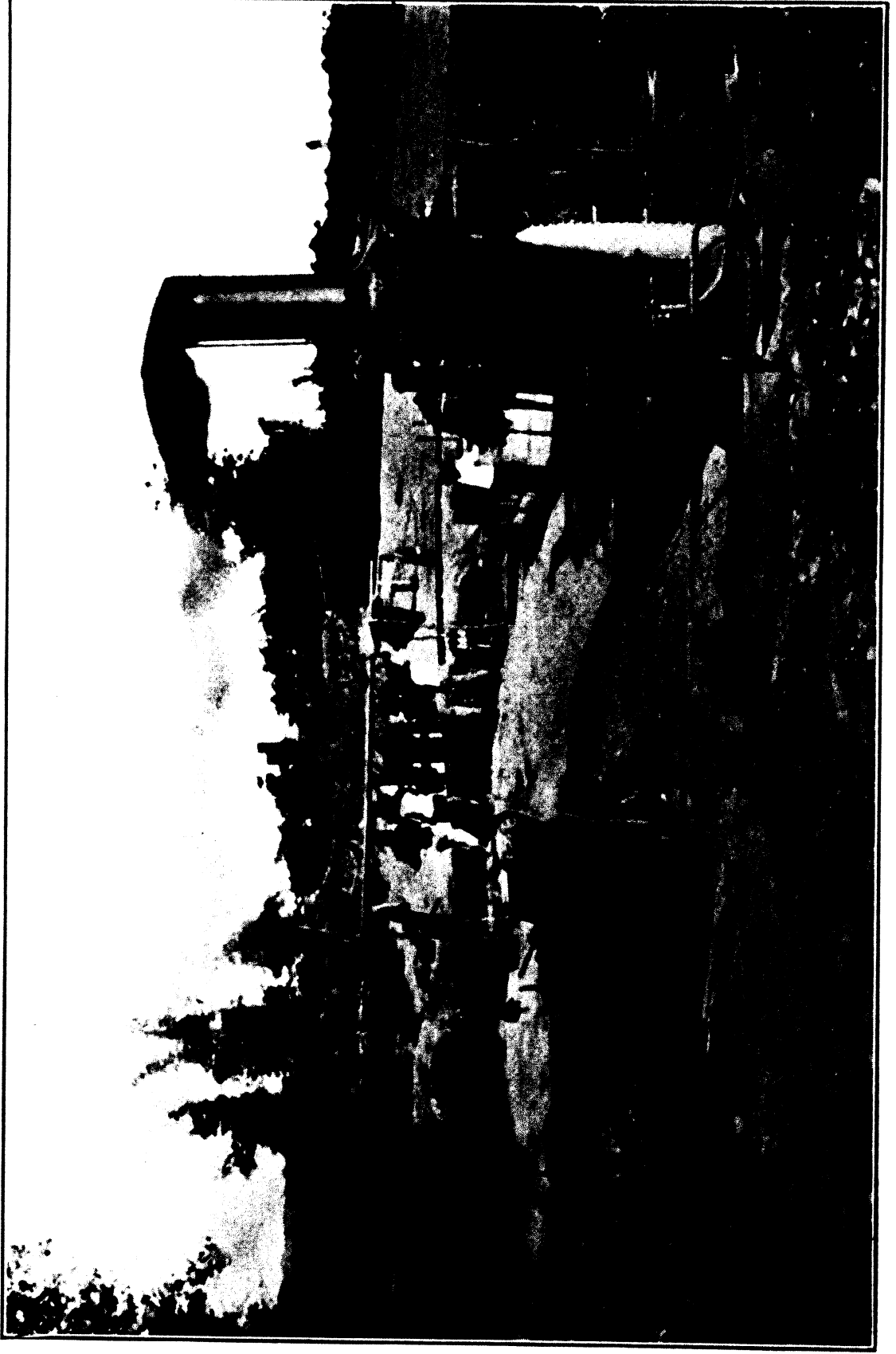


VIEW OF THE SITE OF DAM OF THE NEW WATER SYSTEM LOOKING WEST THROUGH THE GORGE.



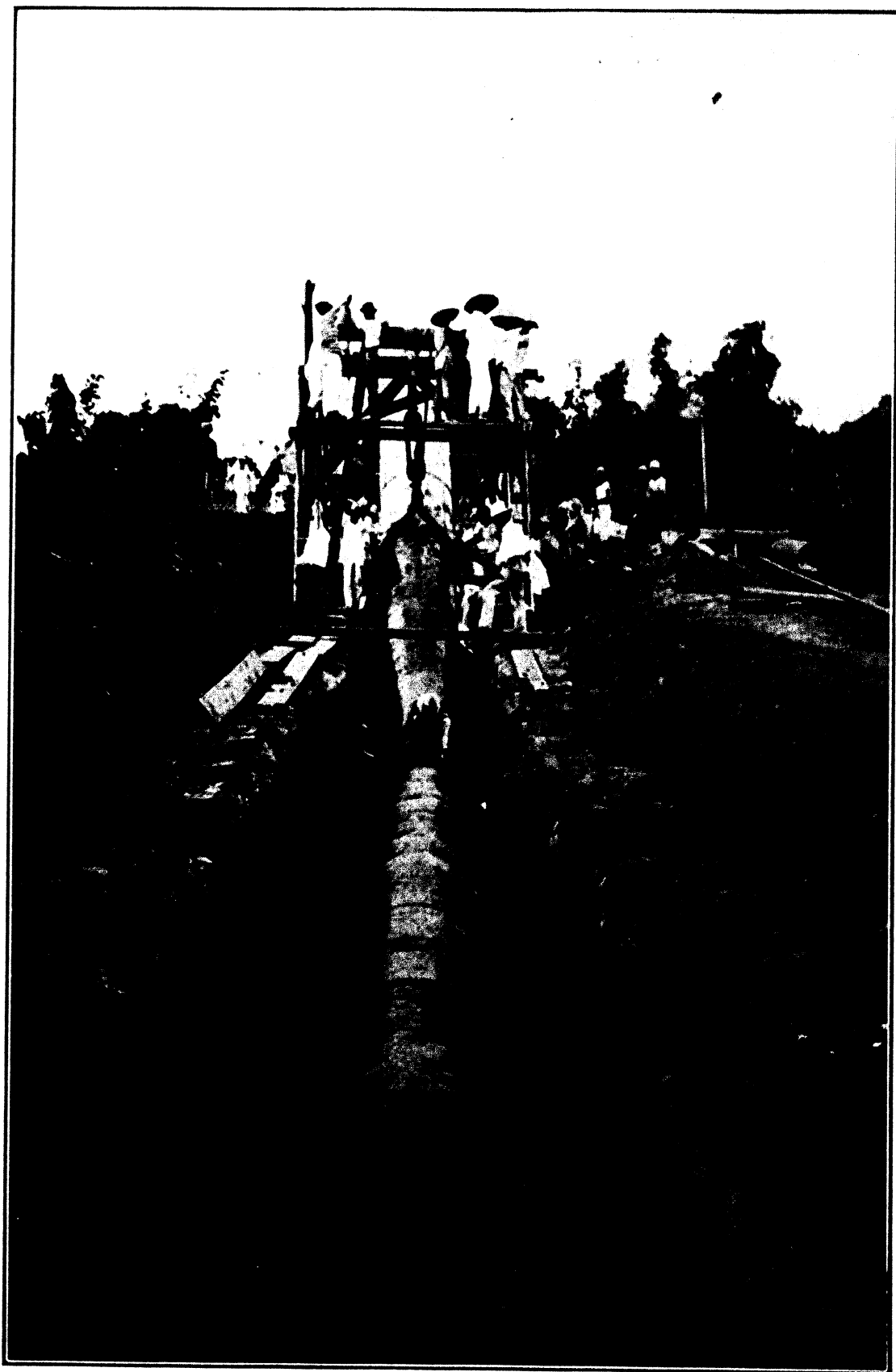


ANOTHER VIEW OF THE SITE OF DAM OF THE NEW WATER SYSTEM LOOKING WEST THROUGH THE GORGE.



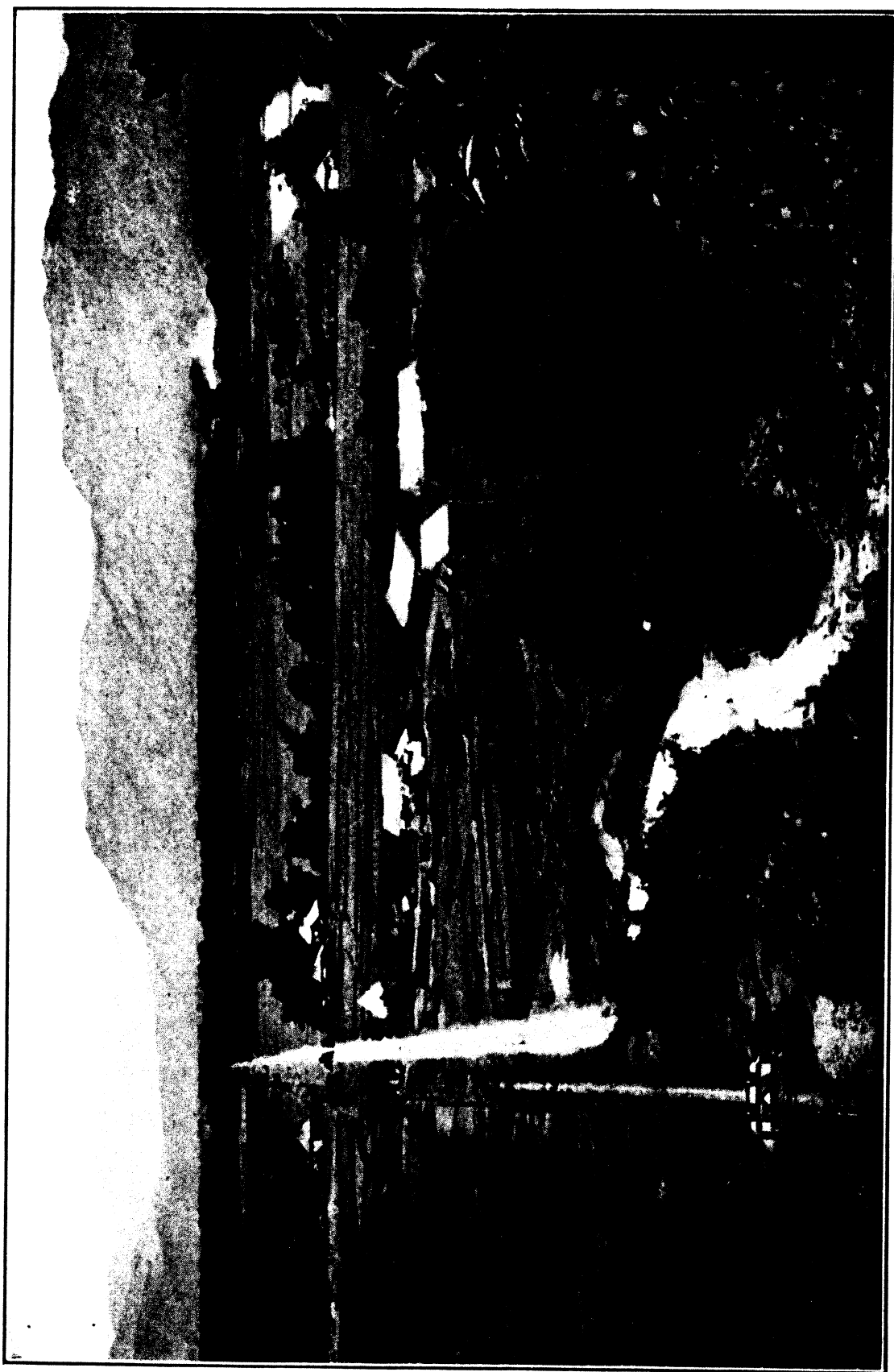
DIGGING TUNNEL FOR THE WATER PIPE LINE.





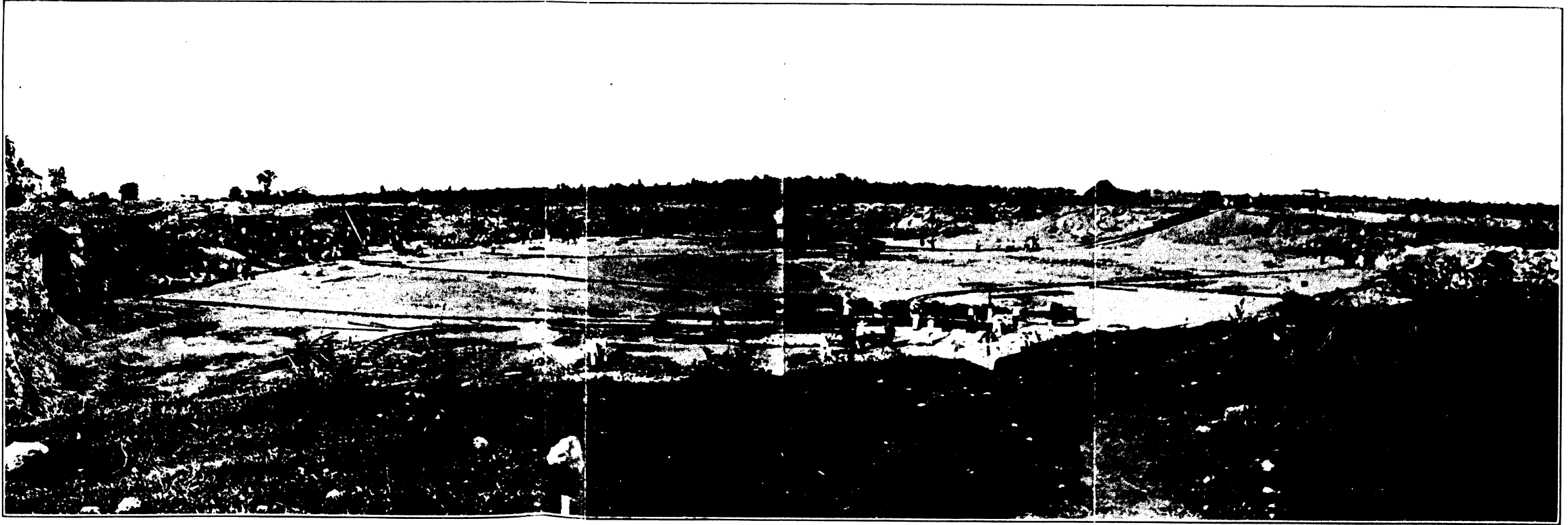
LAYING PIPE FOR THE NEW WATER SYSTEM.





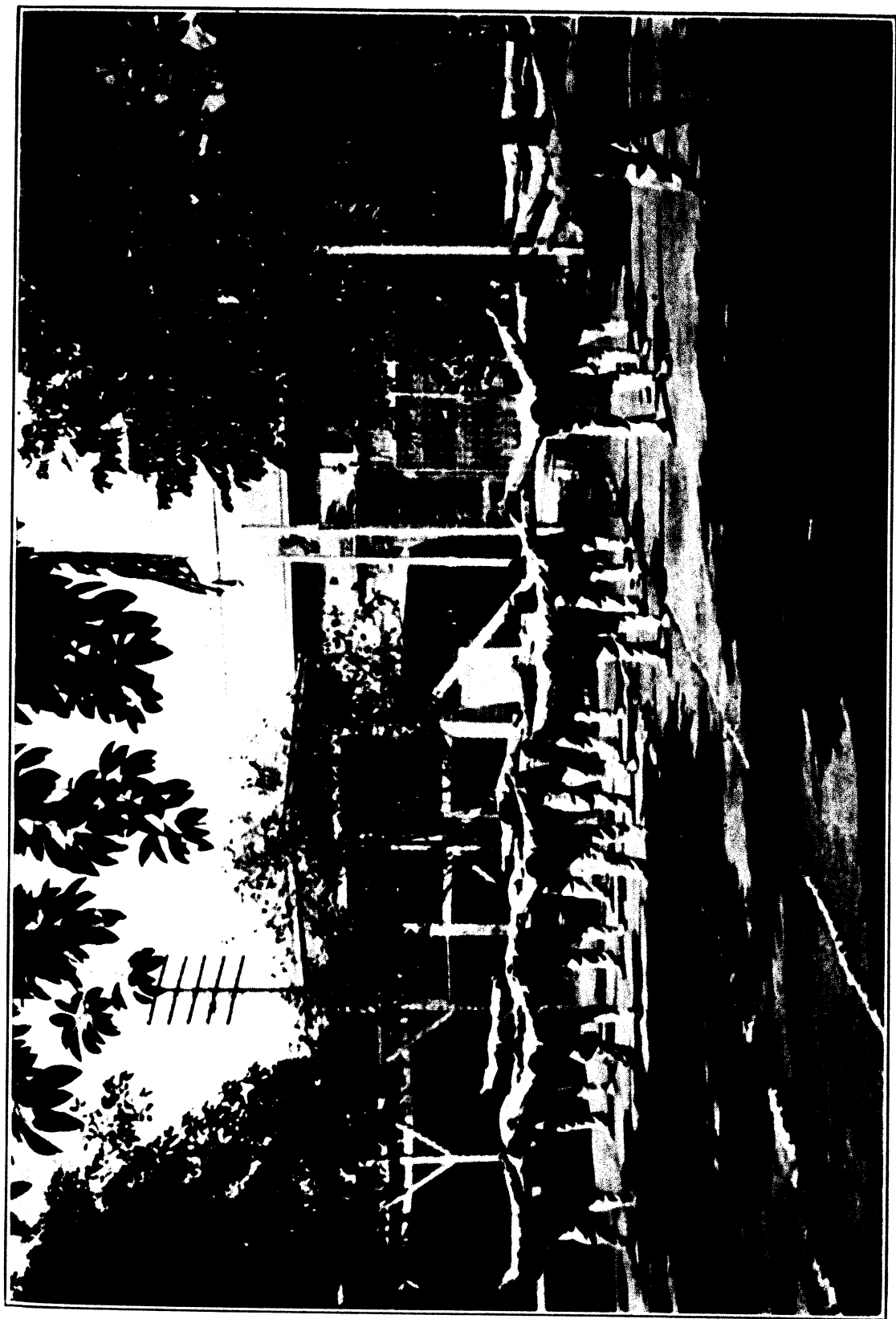
PIPE LINE OF THE NEW WATERWORKS LOOKING EAST UP THE MARIQUINA VALLEY.





EW : THE NEW RESERVOIR OF THE WATER SYSTEM UNDER CONSTRUCTION.

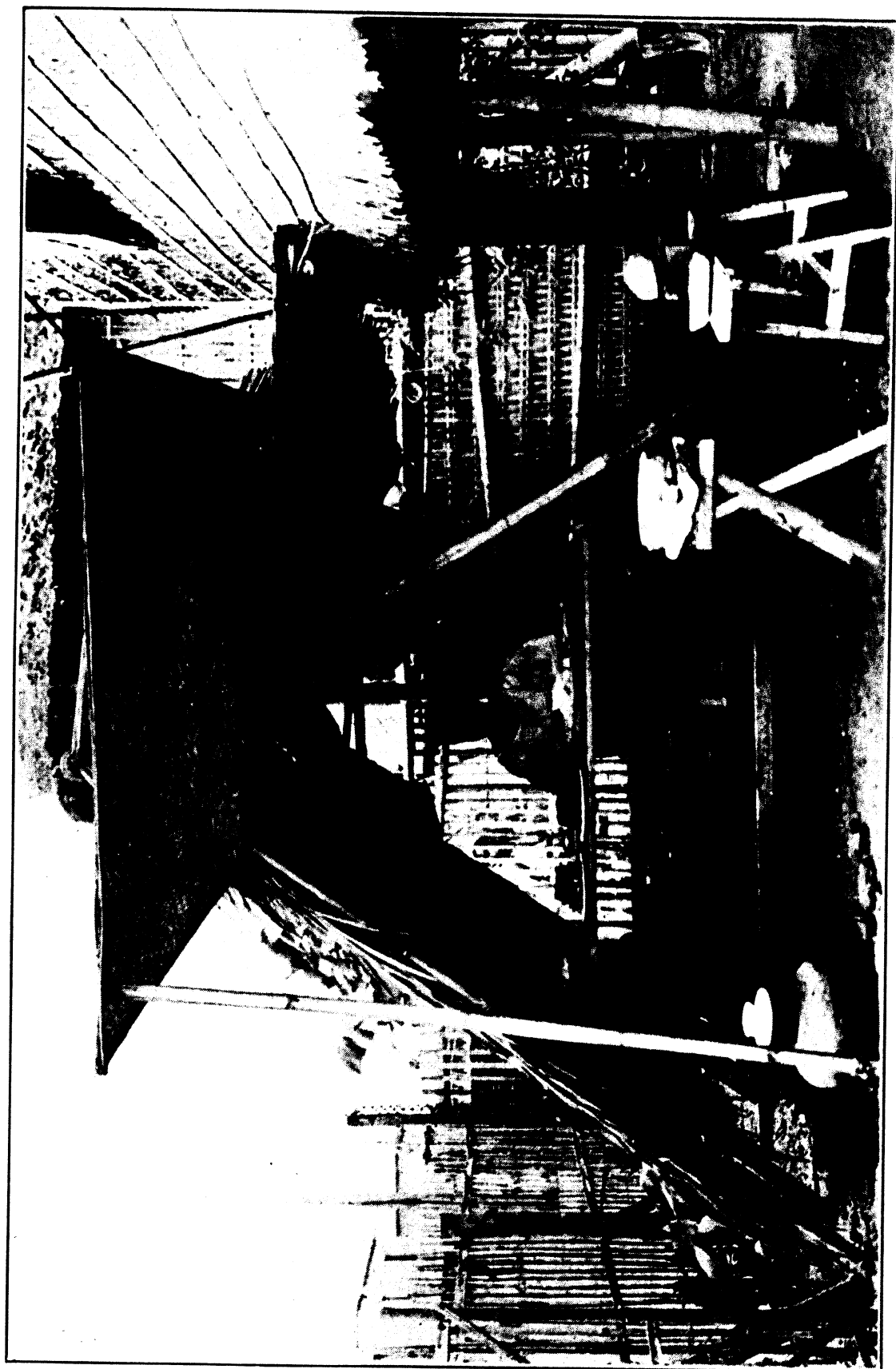




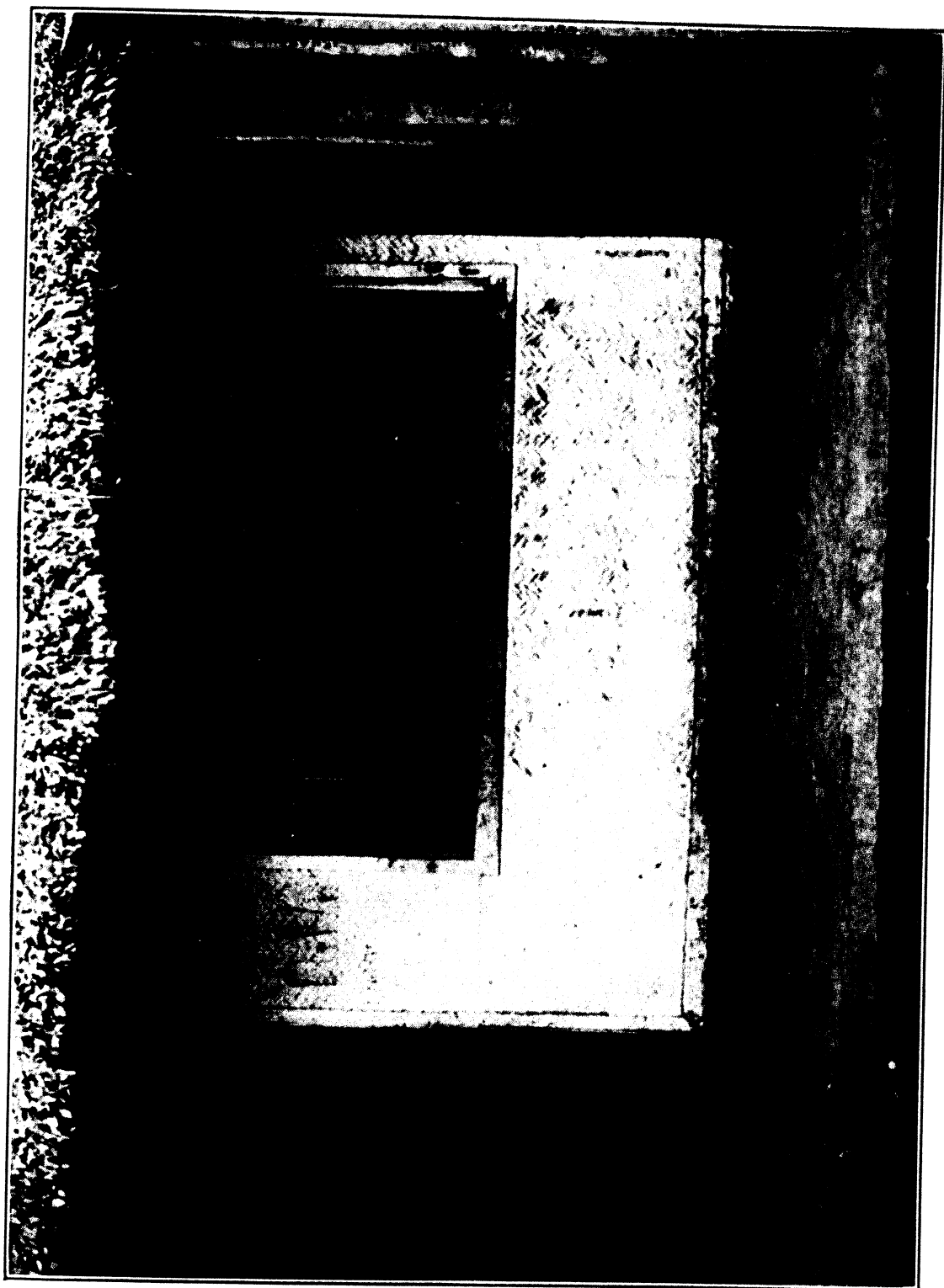
TUBERCULAR PATIENTS IN HOSPITAL "B," BUREAU OF PRISONS, TAKING EXERCISE.



NATIVE PEDDLERS OF SORBETE AND DULCES.



TIENDA BEFORE SANITARY REPAIRS WERE MADE.



TIENDA AFTER REPAIRS WERE COMPLETED.





MAKING MISUA AND MIQUI (NATIVE FCCDS).





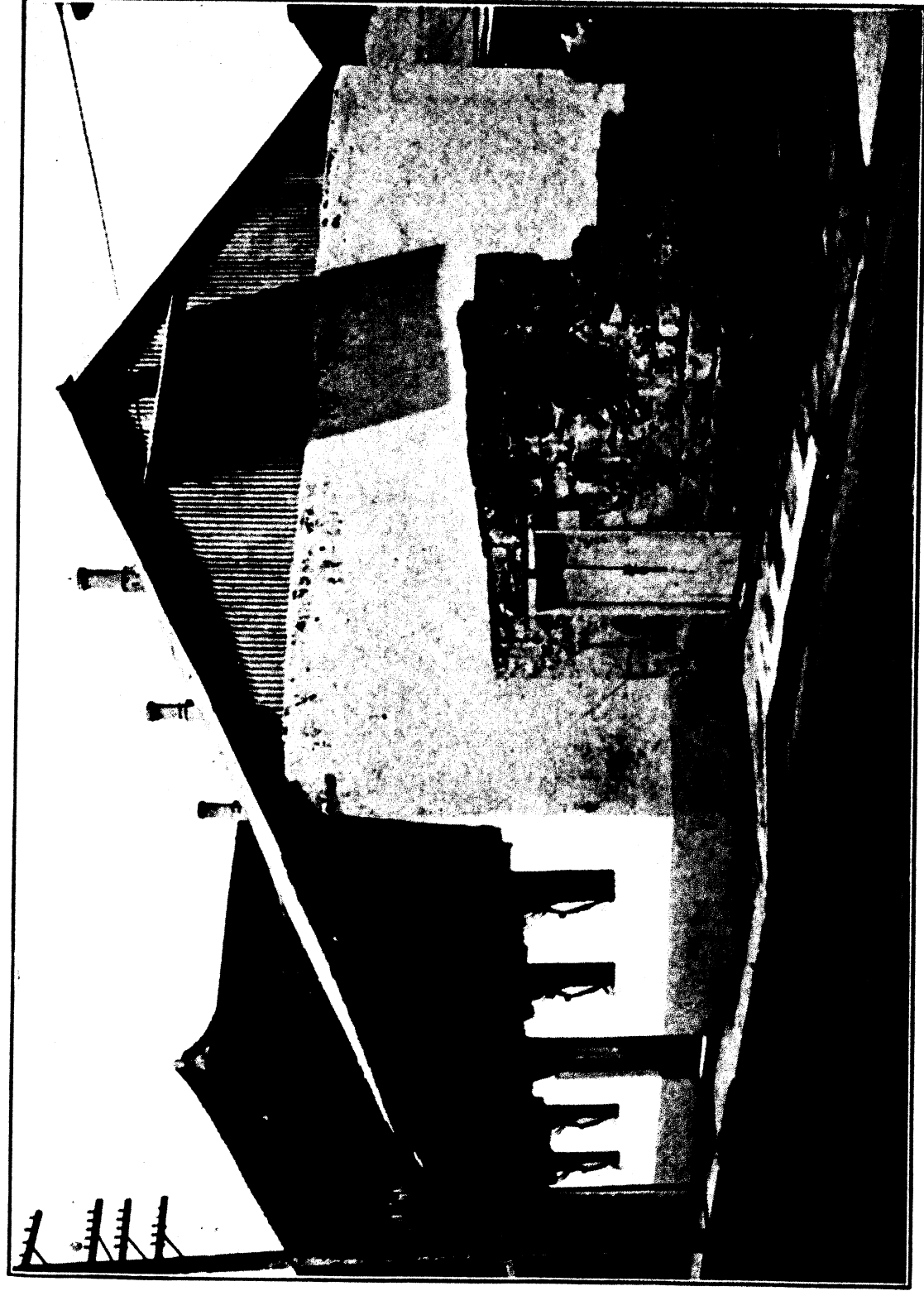
MILK VENDERS, OLD STYLE.





MILK VENDER, NEW STYLE.





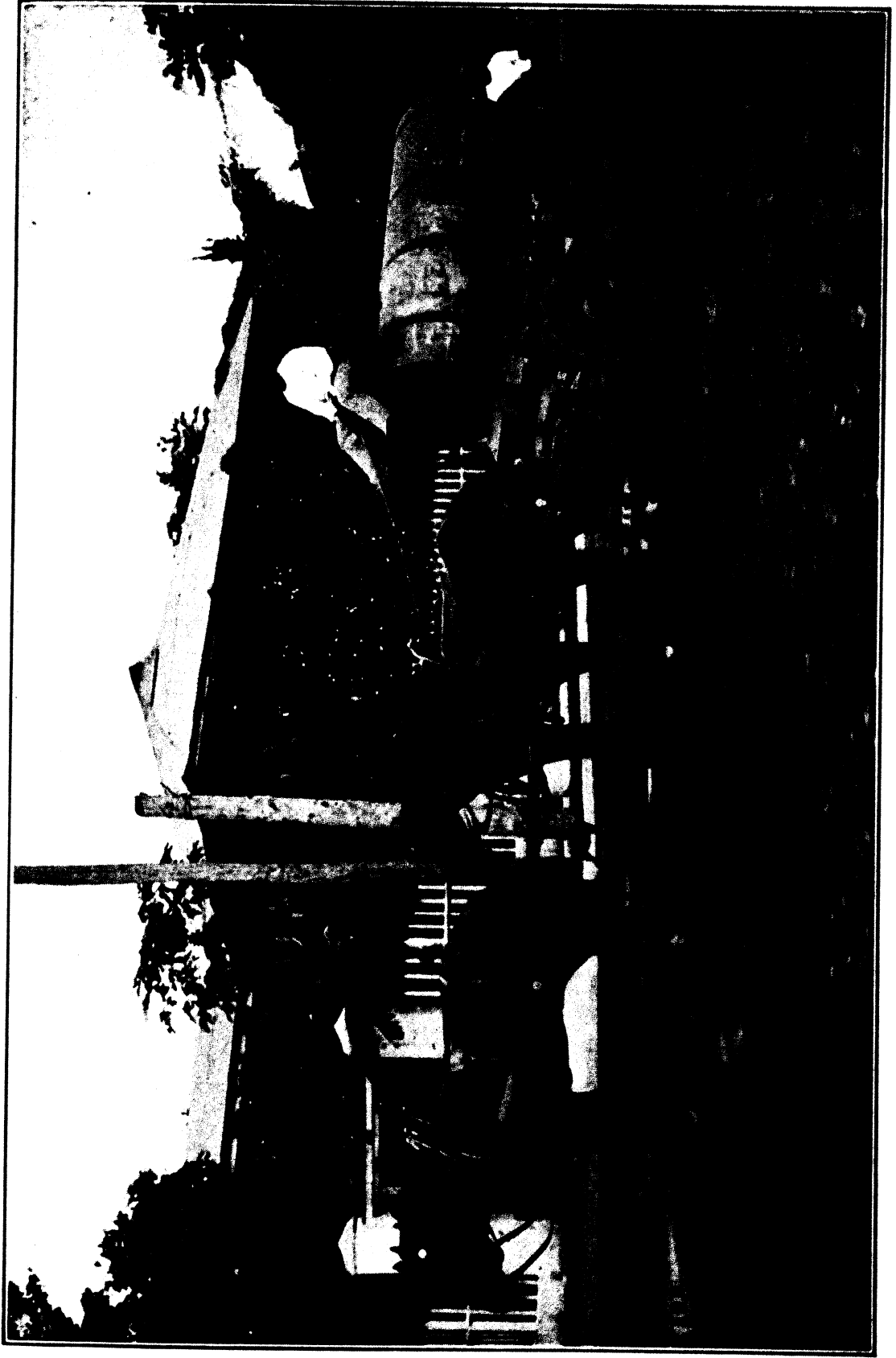
MILK STERILIZING DEPOT CONDUCTED BY THE "GOTA DE LECHE" SOCIETY.





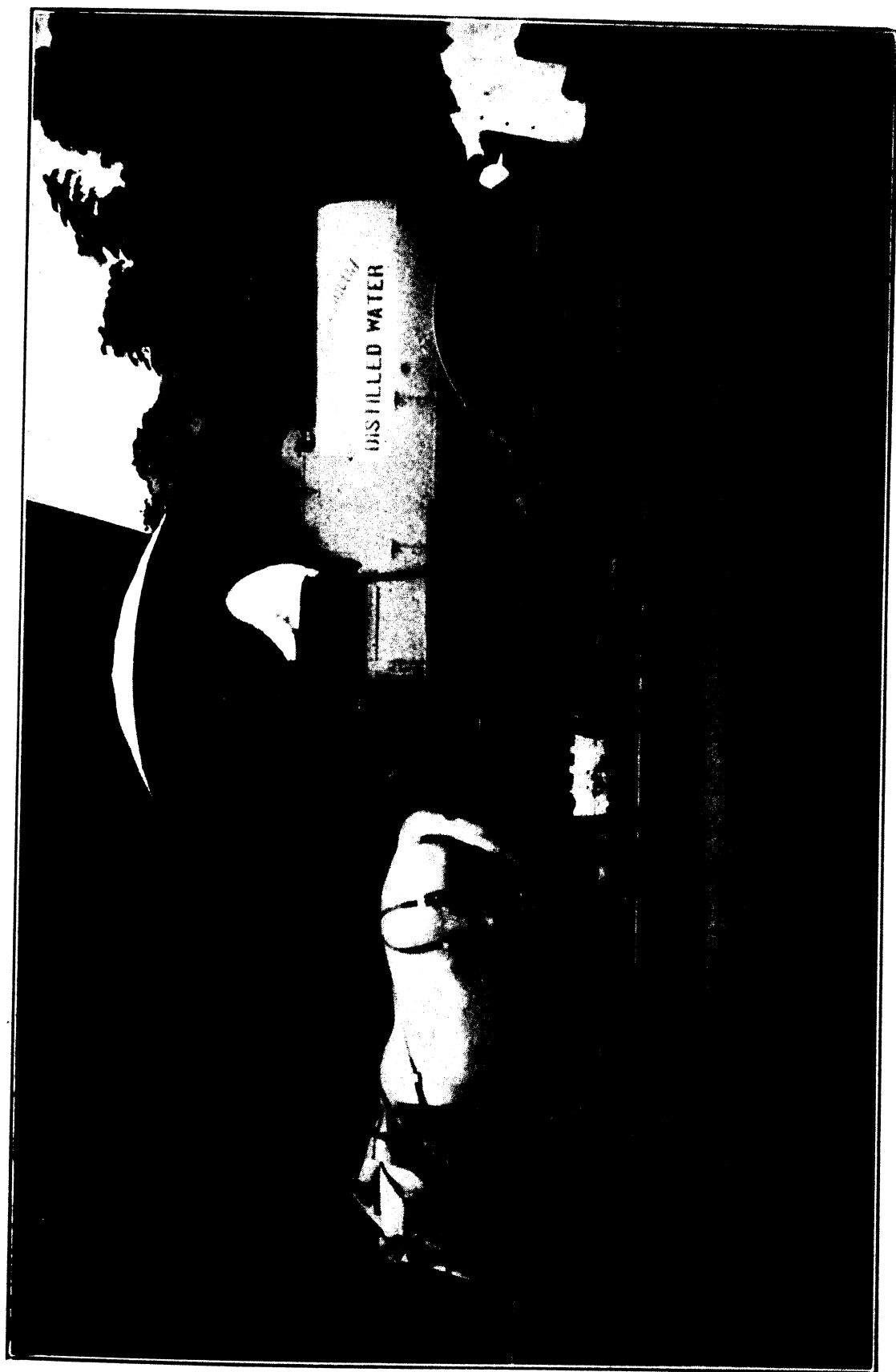
ESTERO OBSTRUCTED BY BAMBOO RAFTS.





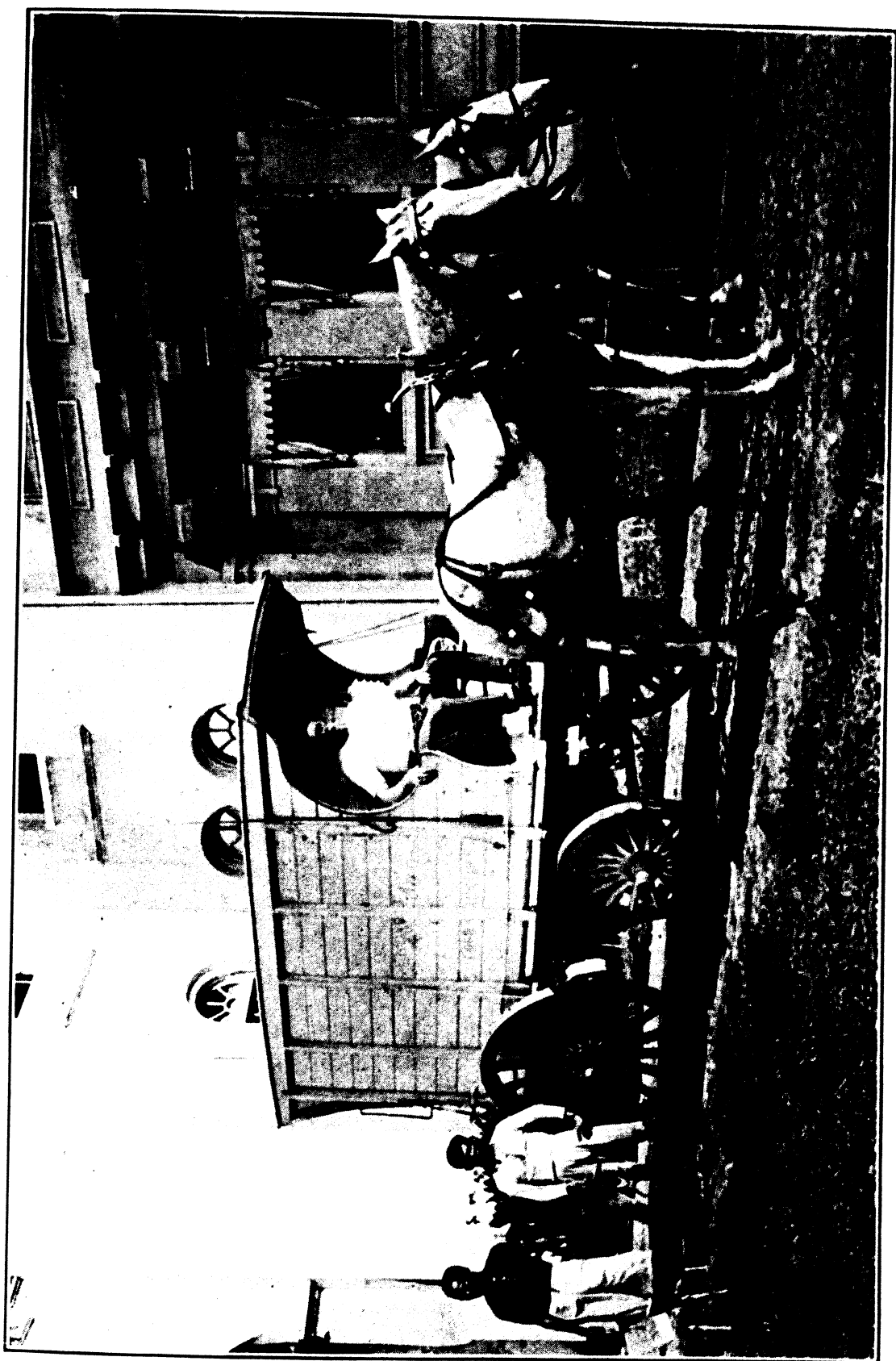
MILITARY WATER WAGON DELIVERING DISTILLED WATER.





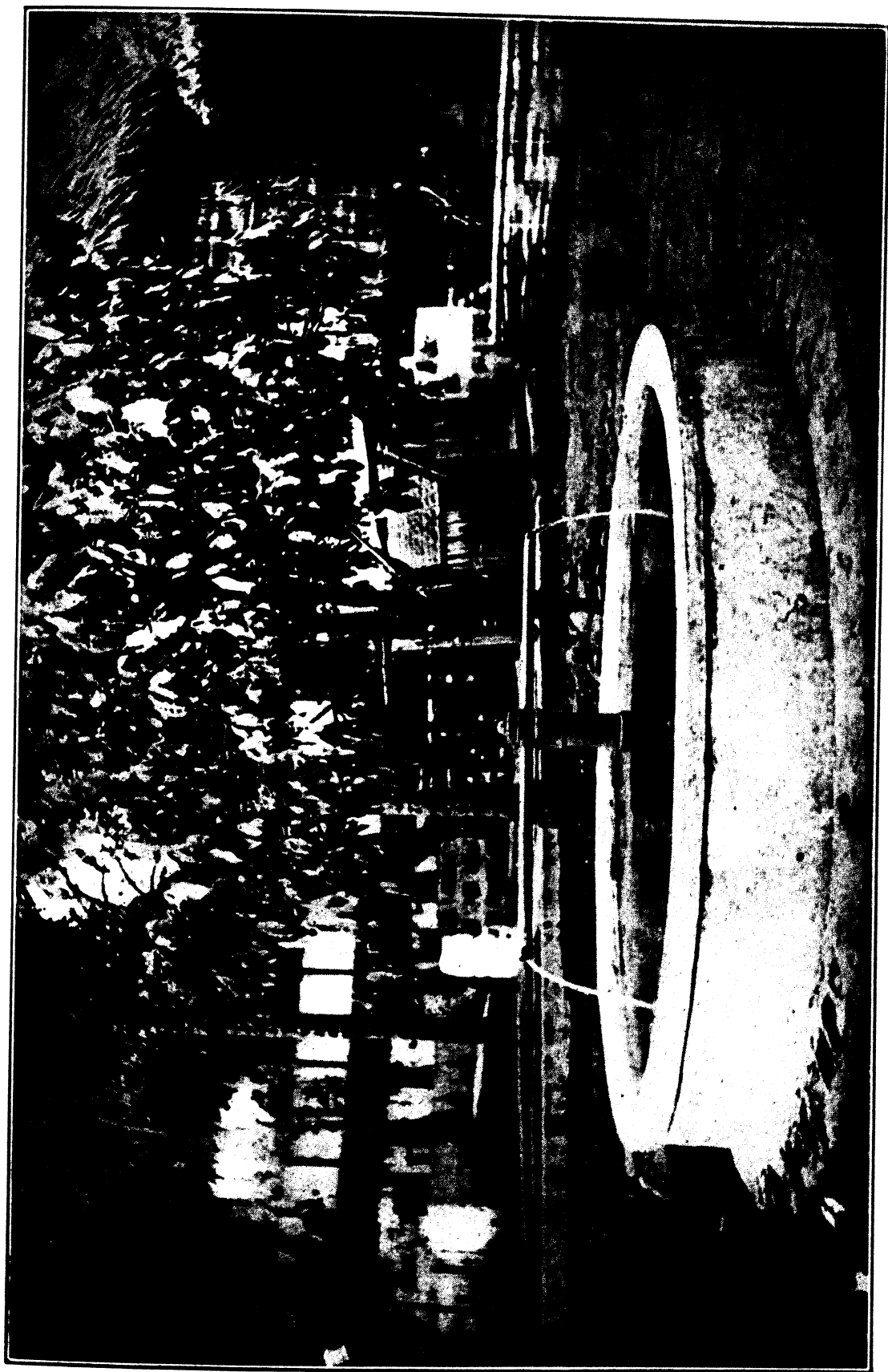
DISTILLED-WATER WAGON, BUREAU OF SUPPLY, DIVISION OF COLD STORAGE.





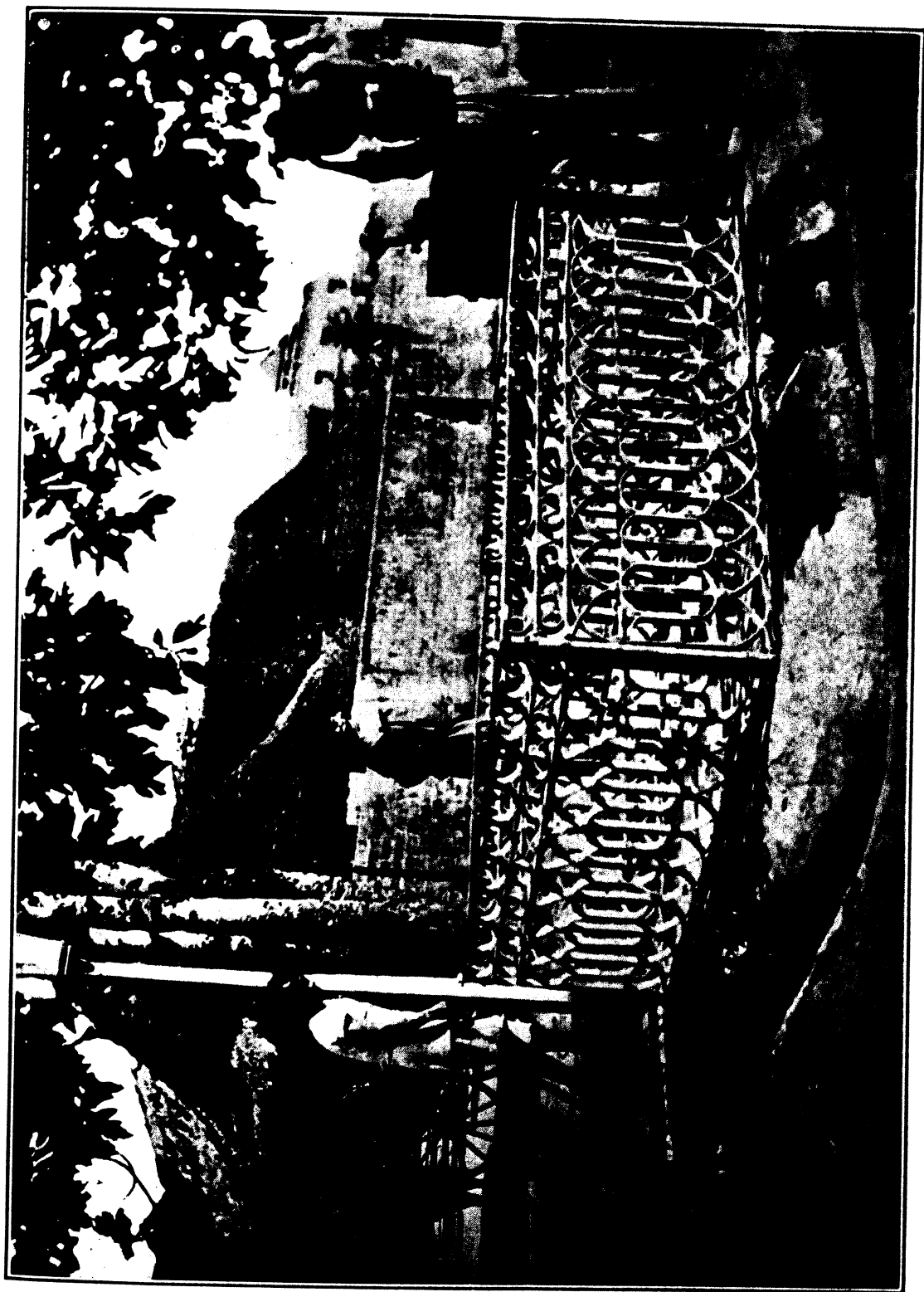
GOVERNMENT COLD STORAGE ICE WAGON.





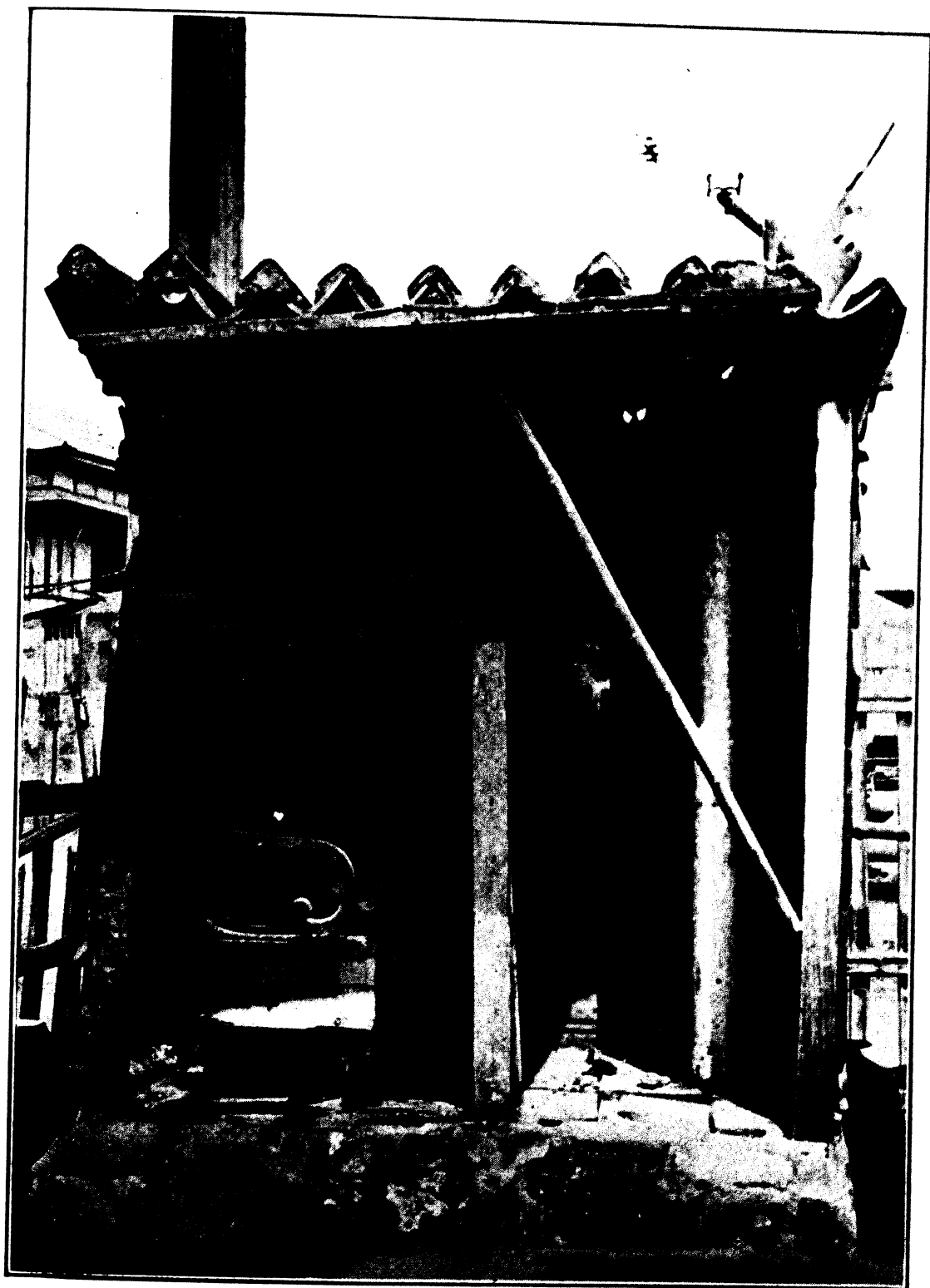
PRIVATE ARTESIAN WELL AT BACOLOR, PAMPANGA PROVINCE.





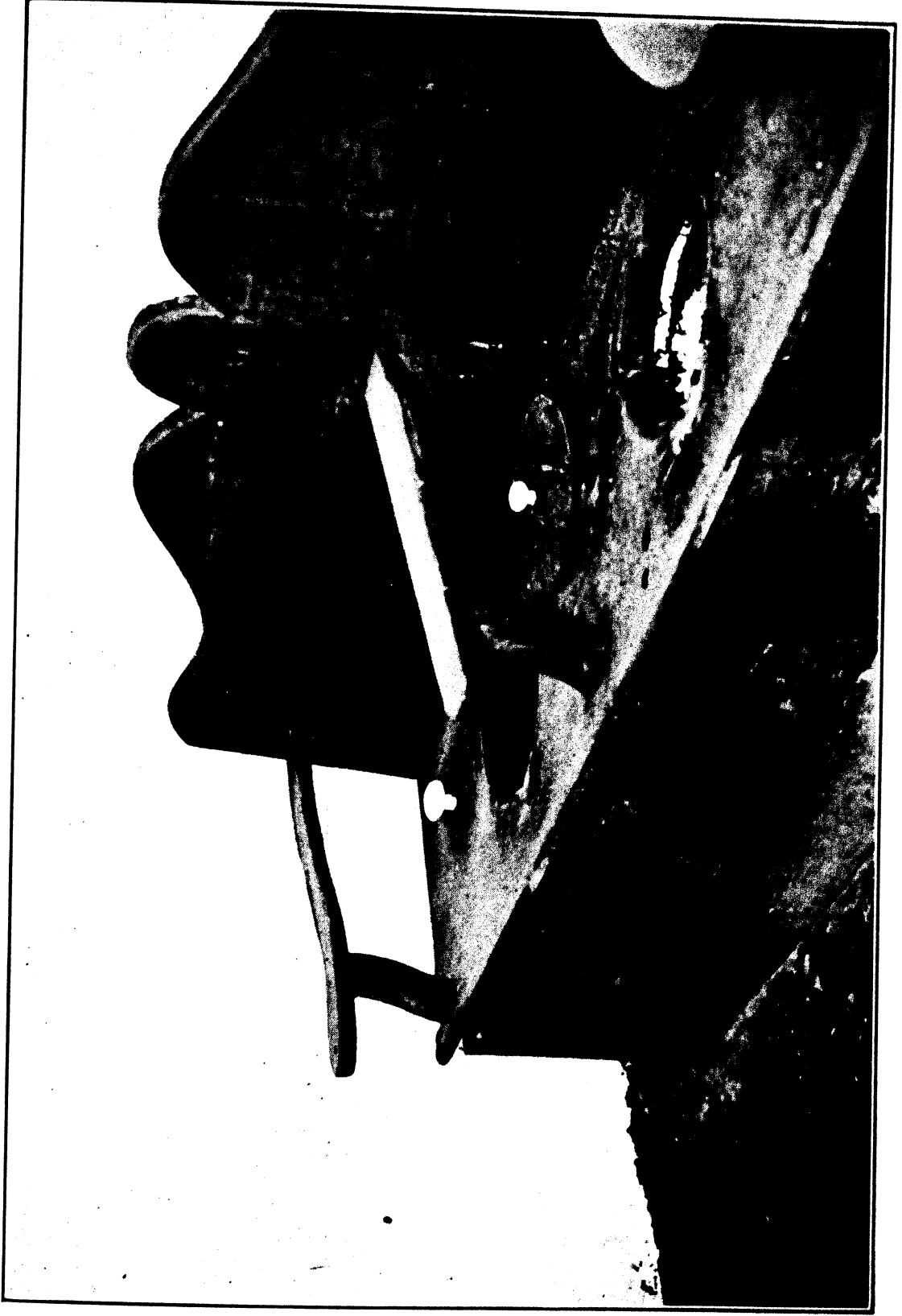
MUNICIPAL ARTESIAN WELL AT BACOLOR, PAMPANGA PROVINCE.





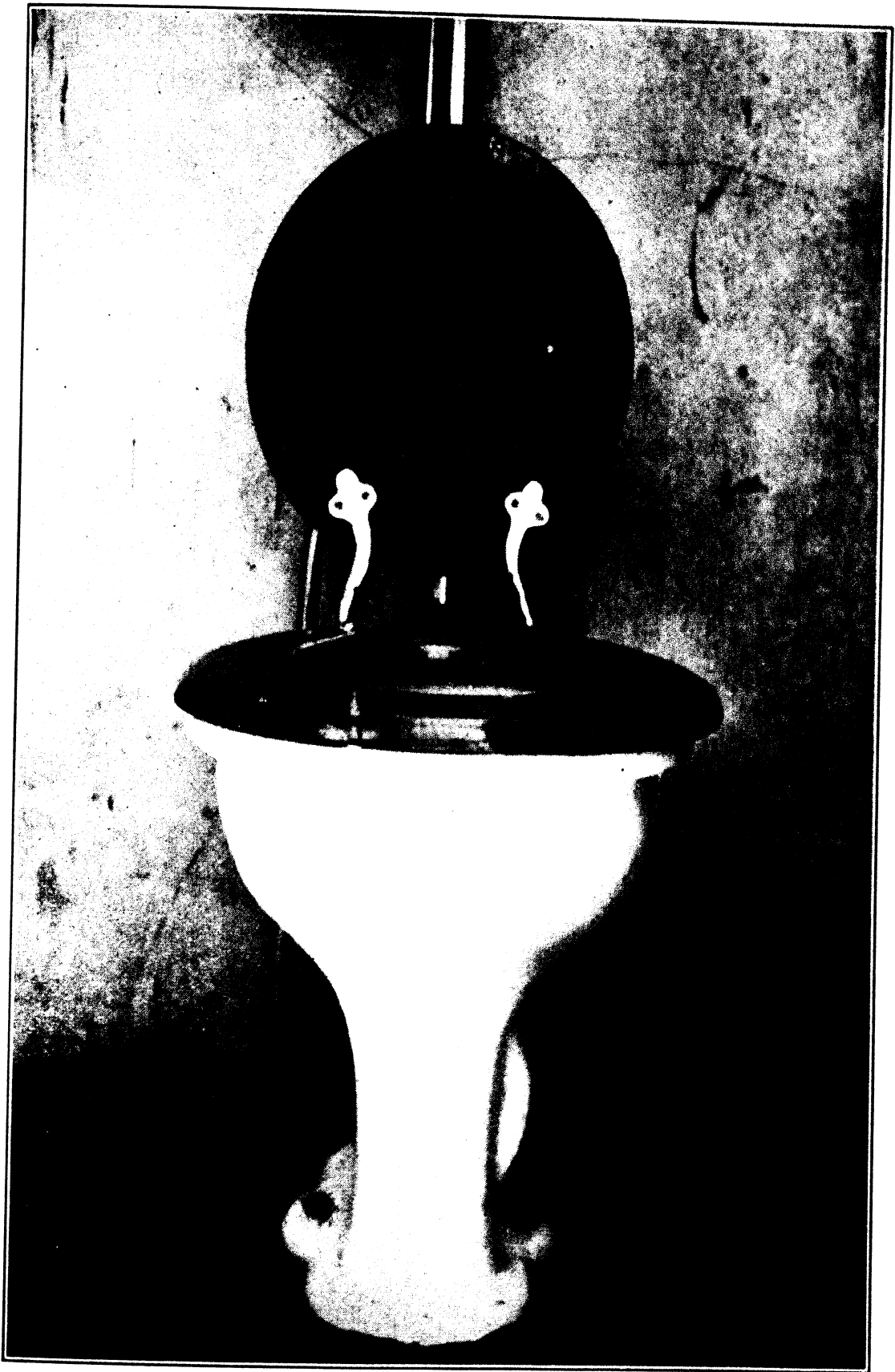
OLD STYLE WATER-CLOSET NOT APPROVED BY THE BUREAU OF HEALTH .





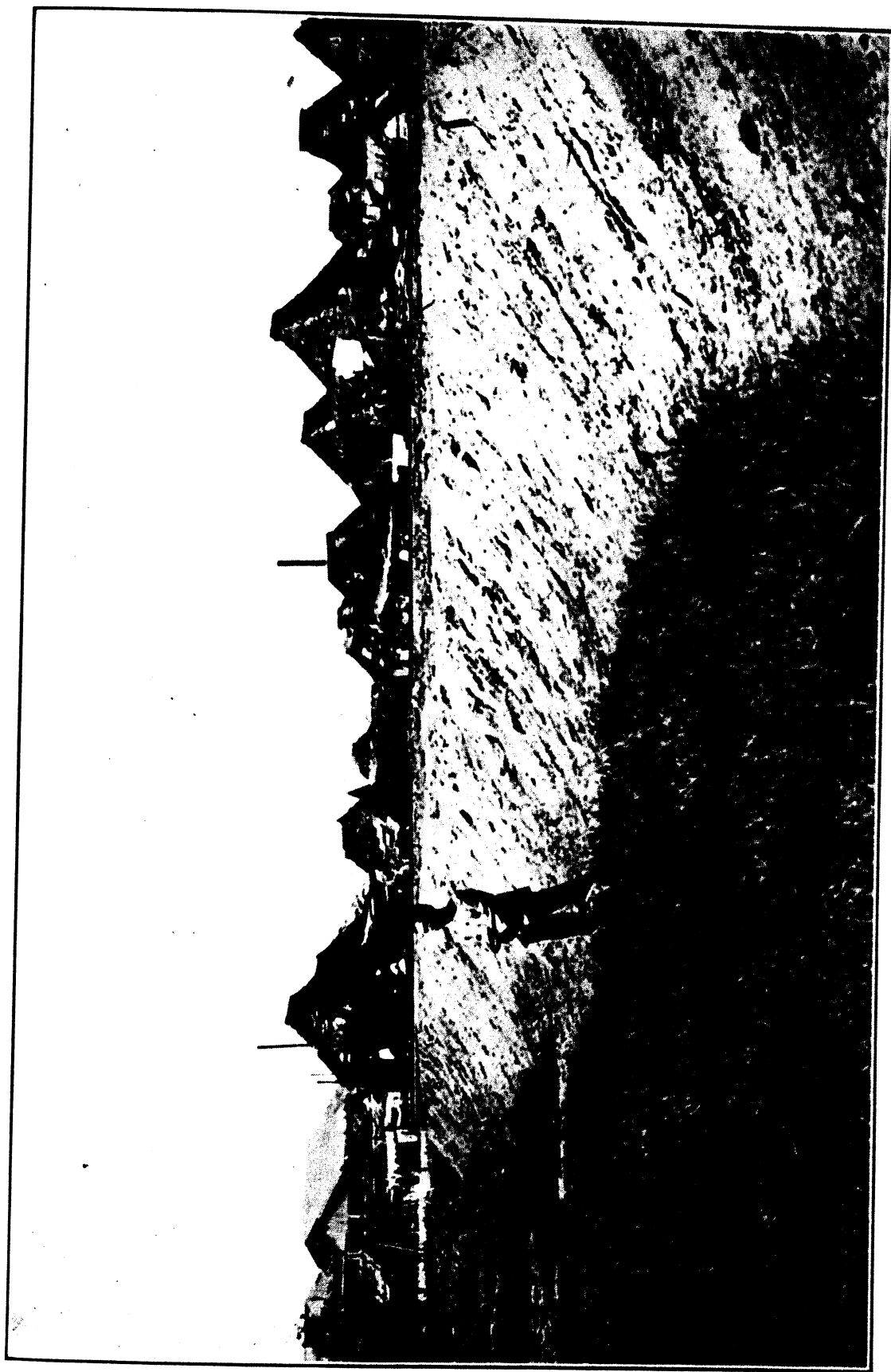
OLD STYLE WATER-CLOSET NOT APPROVED BY THE BUREAU OF HEALTH.





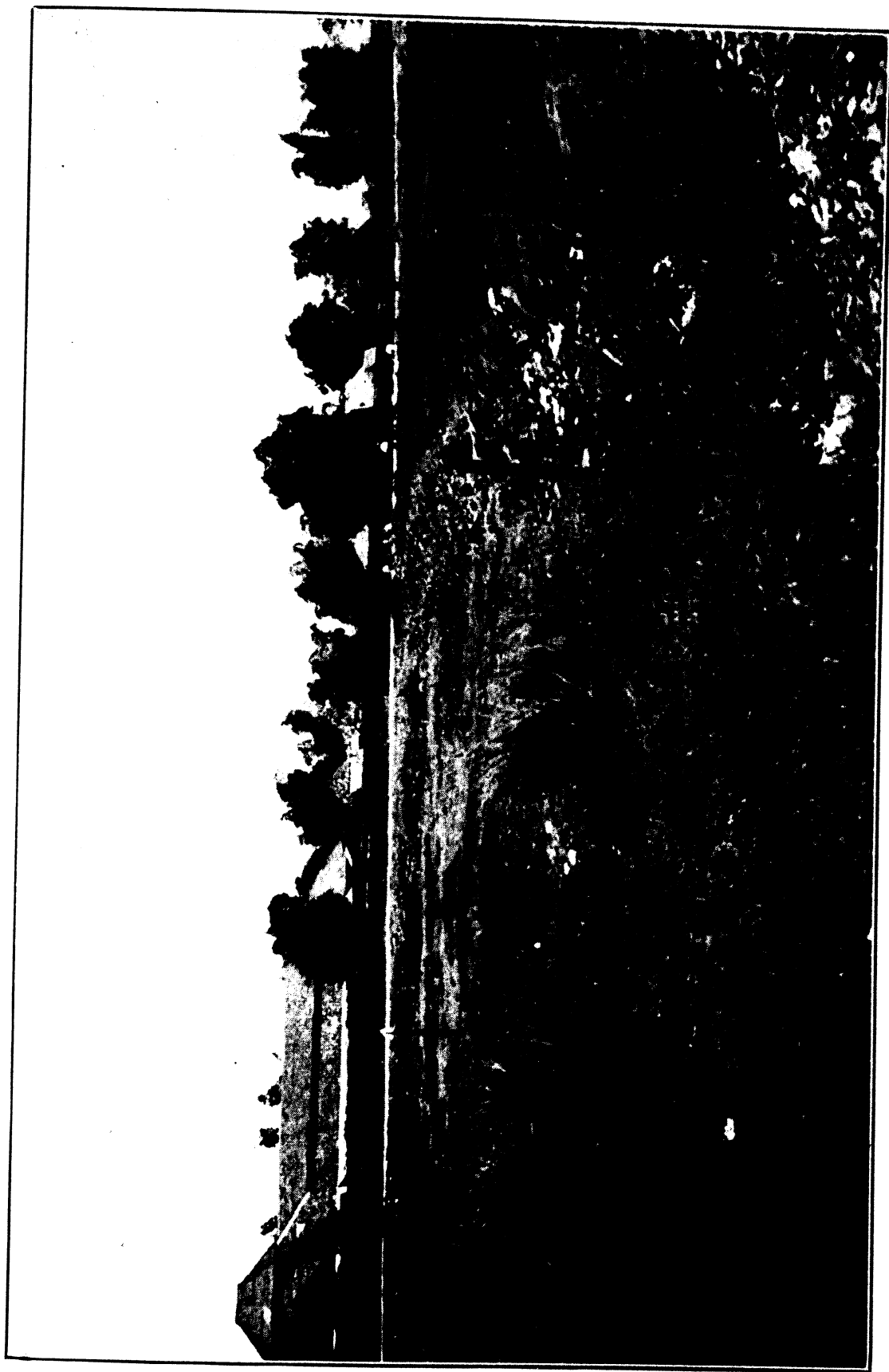
MODERN FLUSH CLOSET.





FILLING IN OF LOWLANDS.





FILLING IN LOW LAND.





NEW SEWER IN PROCESS OF CONSTRUCTION, CALLE DULUMBAYAN.





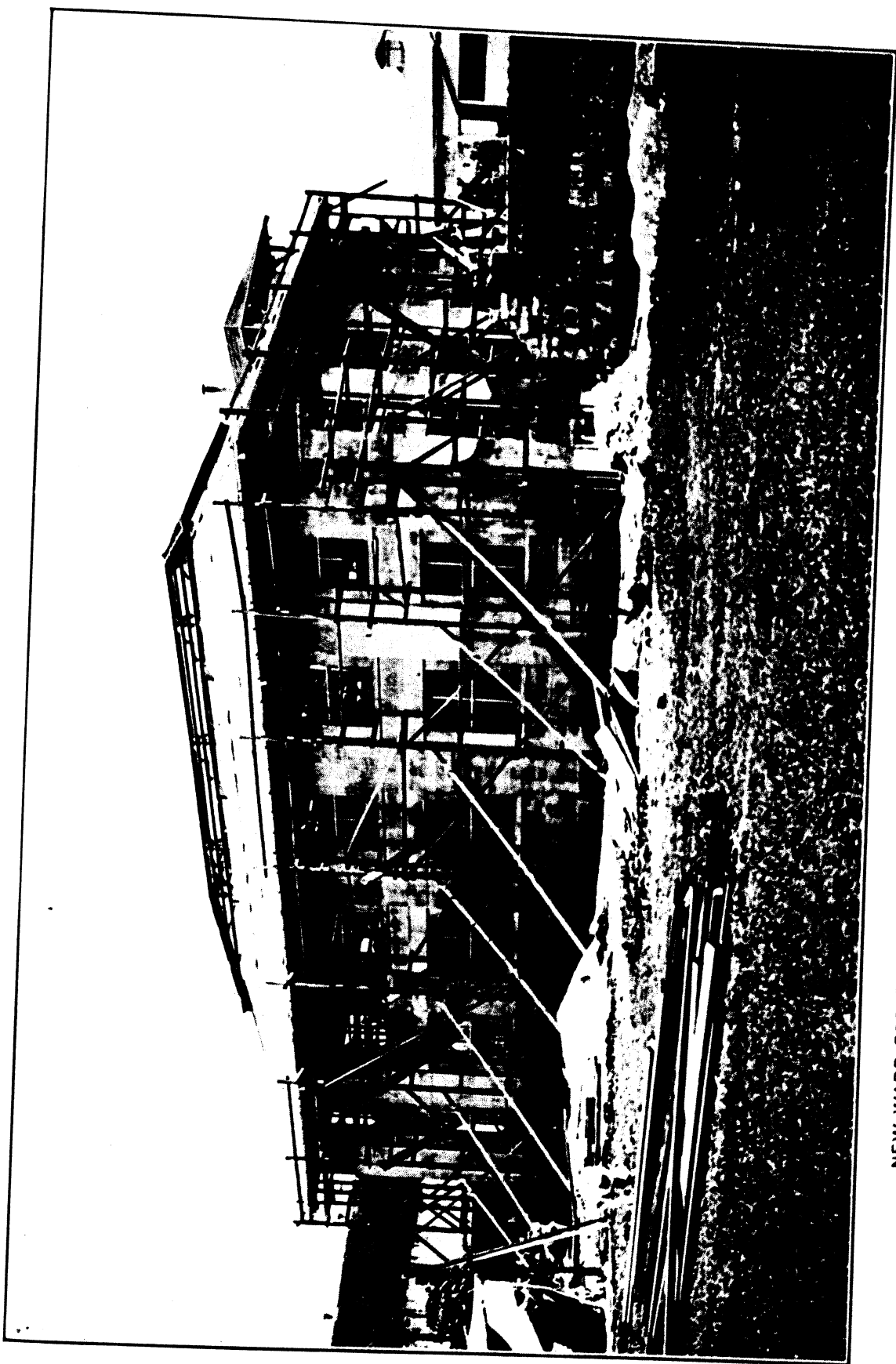
VIEW OF NEW SEWER UNDER PROCESS OF CONSTRUCTION, CALLE HERRAN.





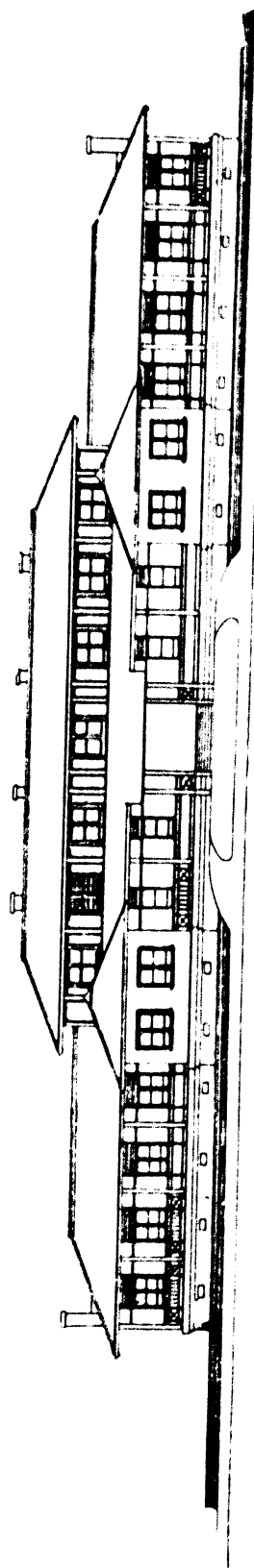
WARD SCENE. CHINESE HOSPITAL.





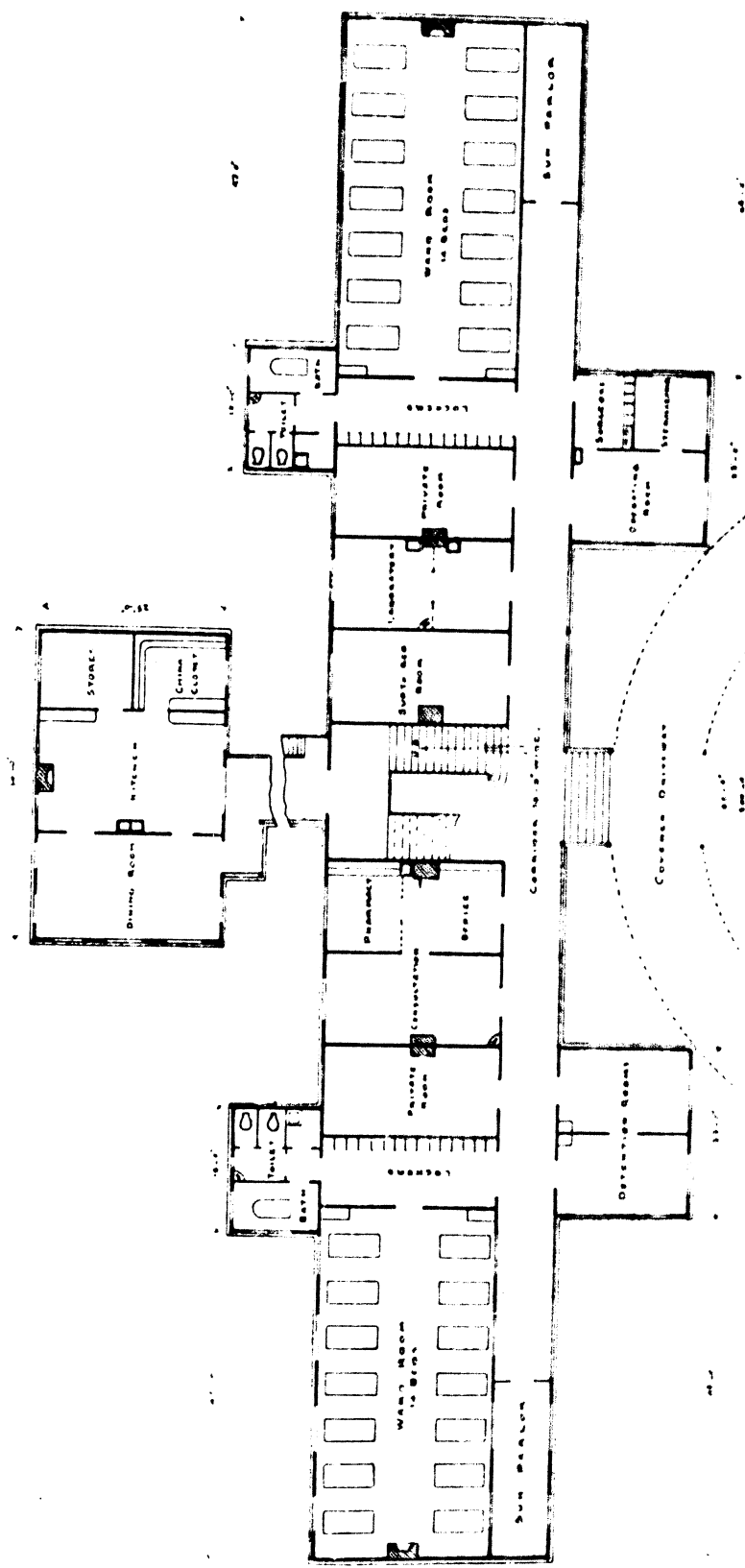
NEW WARD FOR THE INSANE, SAN LAZARO HOSPITAL. UNDER PROCESS OF CONSTRUCTION.





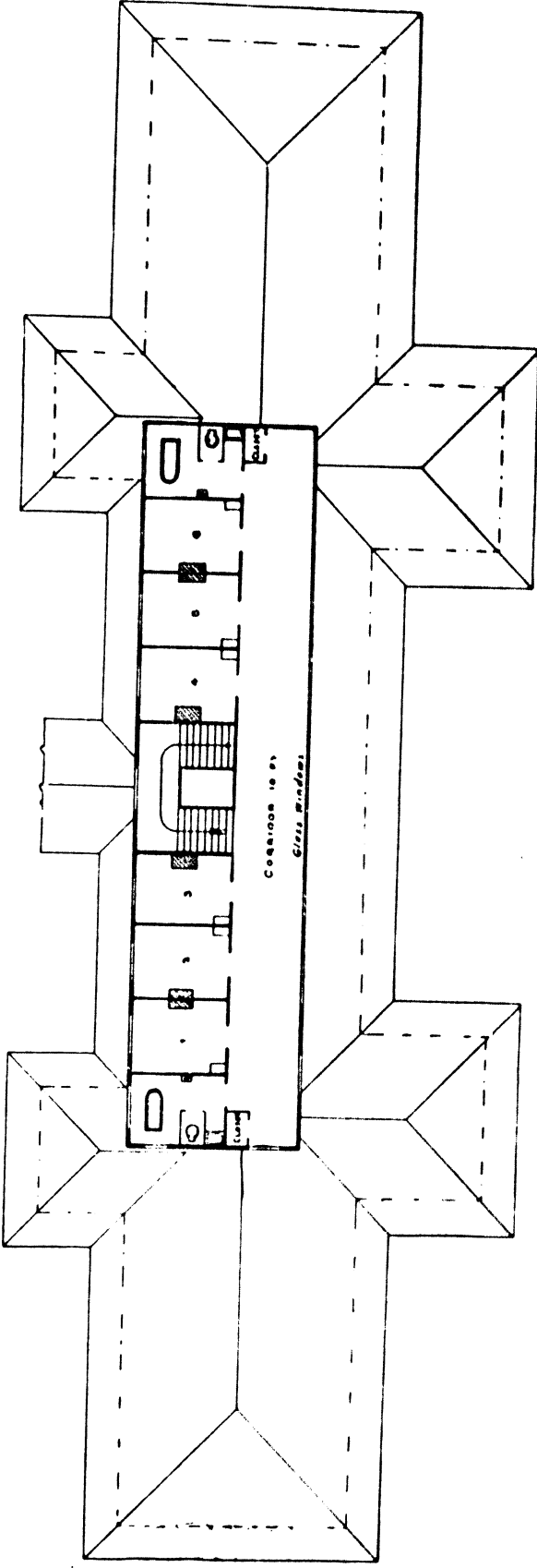
MAIN ELEVATION OF NEW CIVIL SANITARIUM AT BAGUIO, BENGUET, P. I.





GROUND-FLOOR PLAN OF NEW CIVIL SANITARIUM AT BAGUIO, BENGUET, P. I.





SECOND-FLOOR PLAN OF NEW CIVIL SANITARIUM AT BAGUIO, BENGUET, P. I.

